

H-99-04

SOUTHWEST FISHERIES SCIENCE CENTER

NATIONAL MARINE FISHERIES SERVICE

HONOLULU LABORATORY

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JULY 1999

FISHERY STATISTICS OF THE WESTERN PACIFIC

VOLUME XIV

**Territory of American Samoa
(1996 - amended)**

**Territory of American Samoa
(1997)**

**Commonwealth of the Northern
Mariana Islands (1997)**

Territory of Guam (1997)

State of Hawaii (1997)

Compiled by

David C. Hamm, Nathan T.S. Chan, and
Michael M.C. Quach

Honolulu Laboratory
Southwest Fisheries Science Center
National Marine Fisheries Service, NOAA
Honolulu, Hawaii 96822-2396

ADMINISTRATIVE REPORT

H-99-04

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NOT FOR PUBLICATION

PREFACE

In recent years, the demand for data and information concerning marine fisheries has greatly increased. To help meet these increased needs in the central and western Pacific areas, the National Marine Fisheries Service's Southwest Fisheries Science Center initiated the Western Pacific Fishery Information Network (WPacFIN), which assists Pacific island fisheries agencies in upgrading their data collecting, processing, and reporting capabilities. Several agencies are participating in this program: the National Marine Fisheries Service's Southwest Fisheries Science Center and its Honolulu Laboratory, and the Southwest Region and its Pacific Island Area Office, American Samoa's Department of Marine and Wildlife Resources, the Commonwealth of the Northern Mariana Islands' Division of Fish and Wildlife, Guam's Division of Aquatic and Wildlife Resources and Department of Commerce, Hawaii's Division of Aquatic Resources, and the Western Pacific Regional Fishery Management Council.

In 1982, these agencies formed a Fisheries Data Coordinating Committee (FDCC) and a FDCC Technical Subcommittee to help guide, coordinate, and monitor all of the many activities being undertaken by each agency to improve their systems. Significant progress has been made by all participating agencies, particularly in the areas of upgrading data collecting and processing systems.

As a major step in improving and coordinating the data reporting and distributing systems of the agencies, in May 1985 the FDCC agreed to begin producing a combined document reporting each island's major fisheries statistics. Production of the document would be the responsibility of the FDCC Technical Subcommittee and would be coordinated by the WPacFIN program manager. Each agency would supply the data required to produce the tables and graphs for its respective chapter of the report, and central WPacFIN staff would produce and distribute the document as part of the Administrative Report Series of the Southwest Fisheries Science Center.

This document is the fourteenth volume in the series "Fishery Statistics of the Western Pacific" and contains 1997 summaries of commercial landings for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and Hawaii. **This volume also contains updated 1996 data for American Samoa which should be used to replace Samoa data published in Volume XIII** (see additional notes in American Samoa section). As with previous volumes, this volume is divided into sections, one each for the major island areas. Additionally, beginning with this volume, separate Manu'a and Tutuila statistics will not be reported for Samoa; totals for all American Samoa fisheries will be combined.

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BACKGROUND

This report has been compiled by governmental fisheries agencies of several islands in the central and western Pacific area in a cooperative and continuing effort to improve the availability and dissemination of fisheries information. The data contained herein have been collected, computerized, edited, and processed by agencies participating in the Western Pacific Fishery Information Network (WPacFIN, previously referenced as WPACFIN), including American Samoa's Department of Marine and Wildlife Resources (DMWR), the Commonwealth of the Northern Mariana Islands' (CNMI) Division of Fish and Wildlife (DFW), Guam's Division of Aquatic and Wildlife Resources (DAWR), Hawaii's Division of Aquatic Resources (HDAR) and the Southwest Fisheries Science Center's (SWFSC) Honolulu Laboratory, National Marine Fisheries Service (NMFS). The data summaries and graphs contained in this document were prepared by WPacFIN staff at the Honolulu Laboratory from data collected by WPacFIN or provided by these agencies. Data from DMWR, DAWR, and DFW were supplied on floppy diskettes in established WPacFIN data base formats, whereas data for Hawaii were provided by HDAR via a dial-in telecommunications link. Once data from all agencies were put into the proper format on the central WPacFIN computer and appropriate edit and verification procedures completed, summary reports and files were produced using software developed by WPacFIN staff specifically for this purpose. Graphs were produced using commercially available software.

PROGRESS

In 1981, when WPacFIN began assisting agencies improve their data collecting and processing systems, only the State of Hawaii had computerized processing. By mid-1982, fisheries offices in American Samoa, Guam, and the CNMI had implemented computerized processing on microcomputers supplied by WPacFIN. Since that time, these agencies have made many significant improvements to their data collecting systems and have established sound automated data processing systems. Most agencies can now provide fishery statistics to WPacFIN within 45 days of the date of collection. The HDAR also has improved its systems in recent years and has significantly reduced the lag time in data processing from about 2.5 years to less than 3 months for most data. The HDAR has improved its procedures for editing, updating, and processing Hawaii's data. The biggest problems still facing HDAR in improving their data systems are reducing delinquency of fishermen reporting and implementing a validation system to ensure that what gets reported by fishermen is accurate. Efforts are currently underway to develop and implement such a system.

PRECAUTIONS

Data collecting and processing systems vary greatly among Pacific island fisheries agencies. Although much standardization has taken place and is continuing, there remain many unique aspects of each island's systems based on local needs and capabilities. When using summaries contained in this report, especially if making comparisons, one should keep in mind the nature of the systems used to produce the data. For instance, Hawaii's commercial landings data are based on mandatory monthly reporting by licensed commercial fishermen; CNMI's and Guam's data are based on voluntary reporting of major fish buyers using government-provided "trip-ticket" invoices; American Samoa's data are based on creel survey sampling of participation and interviews of fishermen and a data expansion program. Each system has advantages and

disadvantages, and the user should be aware of them when comparing or interpreting data.

The user should also be aware that species assemblages vary among island groups, as do cultural preferences and principal fishing techniques. Population size is of particular importance when making interpretations of the relative value and importance of the fisheries. To help the user make these value judgments, more detailed explanations of the data collecting and processing systems are provided in each island's section of this report.

CONTENTS

This document is divided into sections by island group. Each section contains reports on the monthly and annual landings by species or species groups for the commercial fleet. Two sets of annual summaries are included for Hawaii, one each for commercial landings that were sold and not sold.

Definitions

In addition to the description of the systems and the monthly and annual reports, each section contains graphs of some of the summary fishery statistics of particular interest or importance to participating WPacFIN agencies. For purposes of graphical presentation of the data, several categories have been defined for each island's fisheries. Because of differences in reporting systems and capabilities among the islands, species contained within each category may vary, but all categories are documented in each island's section. Overlap exists among some of the categories used for different graphs. Categories used in the graphs include the following:

1. Fisheries Categories - These are combinations of species of similar ecological types, specifically, pelagic, bottom fish, reef fish, and "other." "Other" includes groups that generally traverse these categories, such as certain sharks and jacks, or are not typically included in these groups, such as mullet and milkfish.
2. Pelagic Management Unit Species (PMUS) - The Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to place tunas under U.S. jurisdiction for management. The Fishery Management Plan for Pacific Pelagic Species was amended to reflect this change and the acronym PPMUS was created to refer to a new group which includes the tunas. However, this report series will continue to treat the tunas as a separate category for graphical purposes and use the PMUS acronym. Therefore, the PMUS category in this document includes only the billfishes, wahoo, mahimahi, and oceanic sharks.
3. Bottom Fish Management Unit Species (BMUS) - Defined as the species of initial importance in the Fishery Management Plan for bottom fish and seamount fisheries, including the major deepwater snapper, grouper, emperor, and certain jacks.

4. Tunas - Predominantly skipjack and yellowfin tunas in all areas, but also including most other tuna species and excluding wahoo. With the recent growth of longline fisheries in Hawaii and American Samoa, bigeye and albacore tuna have also become more important.
5. Other Tunas - All tunas as defined above, but excluding skipjack and yellowfin tunas.
6. Billfish - Combination of all marlin, sailfish, spearfish, and swordfish species.

Graphics

A minimum of four types of graphs are provided with each island's data. The chapter for American Samoa has an additional type of graph on catch and effort from creel survey data. Type I graphs present summary charts of the major species and species groups for 1996. Type II graphs are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined. Type III graphs are based on annual summary statistics and help visualize the variability among years. Type IV graphs are plots of monthly landings of some of the major commercially important species and document fluctuations in landings of these species over the entire time series. Type V graphs are based on creel survey data and include plots of catch and effort by fishing method plus a combination of several of the types I-IV graphs.

I. Monthly graphs for each year's data including:

- A. Major fisheries categories
- B. Tunas, PMUS, and BMUS
- C. Wahoo, mahimahi, and billfish
- D. Skipjack, yellowfin, and other tunas

II. Plots of average monthly landings for:

- A. Tunas, PMUS, and BMUS
- B. Wahoo and mahimahi
- C. Billfish species:
 1. Marlin and sailfish - American Samoa and CNMI
 2. Blue marlin, black marlin, and striped marlin - Hawaii
 3. Sailfish, shortbill spearfish, and swordfish - Hawaii
- D. Skipjack, yellowfin, and other tunas
- E. BMUS and the most important bottom fish species
 1. BMUS, ehu, and onaga – American Samoa
 2. BMUS, emperor, and grouper – CNMI and Guam
 3. BMUS, onaga, and opakapaka – Hawaii
 4. BMUS, ehu, and uku - Hawaii

III. Graphs of annual summary statistics for:

- A. Major fisheries categories
- B. Total commercial landings - pounds and dollars
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- B. Mahimahi – all four areas
- C. Blue marlin – all four areas
- D. Black marlin – Hawaii
- E. Striped marlin – Hawaii
- F. Sailfish – American Samoa, Guam, and Hawaii
- G. Shortbill spearfish – Guam and Hawaii
- H. Swordfish – Hawaii
- I. Skipjack tuna – All four areas
- J. Yellowfin tuna – All four areas
- K. Opakapaka – Hawaii
- L. Onaga – American Samoa and Hawaii
- M. Uku – Hawaii
- N. Ehu – American Samoa and Hawaii
- O. Emperors – CNMI and Guam
- P. Grouper – CNMI and Guam



AMERICAN SAMOA

**Fishery Statistics
1997**

AMERICAN SAMOA 1996 FISHERY STATISTICS (amended)

AMERICAN SAMOA 1997 FISHERY STATISTICS

Compiled by

American Samoa

Department of Marine and Wildlife Resources

and the

Western Pacific Fishery Information Network

July 1999

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AMERICAN SAMOA 1997 FISHERY STATISTICS

INTRODUCTION

American Samoa (lat. 14° S, long. 170° W) is composed of the major island of Tutuila, where over 80% of the total population of approximately 62,000 live; Aunu'u, a small island less than 1 mile off Tutuila's southeast shore; the Manu'a Islands of Ofu, Olesaga, and Ta'u, located about 105 km (65 miles) east of Tutuila; the uninhabited Rose Atoll, some 290 km (180 miles) east of Tutuila; and the sparsely populated Swain's Island about 350 km (220 miles) north of Tutuila. The American Samoa Department of Marine and Wildlife Resources (DMWR), formerly the Office of Marine Resources, is located near Pago Pago on Tutuila, and has been collecting commercial fisheries data from the local fleet on Tutuila since the early 1970's and from the Manu'a Islands since 1983. Most data collected over the years have been from the commercial fleet, but beginning in October 1985 DMWR's data collection programs were modified to include data on recreational and subsistence fisheries as well.

The domestic fisheries of American Samoa are typically small boat, one-day fisheries. The majority of the fleet is composed of 28- to 32-foot outboard engine powered catamarans called "alias" or manta cats, and they have traditionally used mostly trolling and bottom fishing methods. However, a fishery of domestic longlining began in 1995 and became a dominant fishery in 1996. By 1997 22 longlining vessels were active in the fishery, which resulted in significantly increased catches of the principle target species, albacore tuna, as well as several other pelagic species such as blue marlin, mahimahi, and yellowfin tuna. During 1997, 56 boats were sampled during the weekly creel survey, 47 from Tutuila and 9 from the Manu'a Islands. The majority of the catch is sold locally, with most of the longline albacore sold to the two canneries on Tutuila. On average, trips on boats from Tutuila had three-man crews, fished 7 hours, and caught a little over 300 pounds of fish, whereas boats from the Manu'as also fished three-man crews, but only fished for 5 hours and caught less than 100 pounds of fish.

SPECIAL NOTE ON DATA REVISIONS

This volume includes updated data for American Samoa for 1996 which should be used to replace the data published in Volume XIII for 1996. Additionally, the summary tables presented for 1997 were created in a different manner and are substantially different from earlier volumes. The 1996 and 1997 tables include only monthly and annual estimated commercial landings for all American Samoa islands combined, e.g. separate tables for Tutuila and the Manu'a islands are no longer provided.

Significant changes in the fisheries of American Samoa began taking place in the mid 1990's with the development of the longline fishery and a nighttime, boat-based SCUBA spearfishing fishery. Because of the nature of these fisheries, biases began creeping into the interviewing processes of the DMWR surveys. By 1997 WPacFIN staff had discovered the problems, and modifications to survey techniques were implemented by DMWR staff. It became clear by early 1998 that the algorithms used to expand the survey data and estimate for the total fishery also needed to be changed. Efforts are currently underway to develop a new data processing system that will better handle the more complex nature of today's fisheries in American Samoa.

However, and in the meantime, something had to be done to provide better estimates of the true fisheries for 1996 and 1997. WPacFIN staff thus created interim "best available" data

for these two years. For 1996, data from the fish dealer purchase receipt system for spearfish were integrated with the creel survey expansion files, and appropriate changes in the creel survey databases were made. Additional modifications in creel survey databases were made for 1997 data to further reduce sampling biases, and new expansions were created.

In summary, the data presented in this volume represent the best available estimates at this time, but will likely change slightly in the future once the complete reprogramming of the system and reprocessing of the data are complete.

DATA COLLECTING SYSTEM

The major method used by DMWR for obtaining catch statistics has always been interviewing fishermen at the end of their trips. Before October 1985, the DMWR data collectors kept records of as much commercial fishing activity as possible and routinely obtained interviews from fishermen as often as possible. This method of data collection provided accurate data on the commercial fleet for trips where interviews were conducted, but was very labor intensive, did not cover all trips, and intentionally excluded the recreational and subsistence fisheries. Therefore, in October 1985, a new sampling program was implemented on Tutuila to provide better coverage and statistics for all boat-based fisheries. The new sampling methods were not implemented in the Manu'a Islands because the fishing fleet is centrally located and is small enough that statistics were being collected for nearly every trip.

The boat-based fishery sampling program used for Tutuila since October 1985 is similar to the one used in Guam. This systematic, random sampling program stratifies sampling by type of day, either weekday or weekend-holiday. The DMWR staff normally sample 2 weekdays and 1 weekend-holiday per week. During survey days, counts of total participation are collected to facilitate expansion of the survey data to estimates of total catch and effort for Tutuila. Unless contrary information is available, a boat is assumed to be fishing if it is "out," as evidenced by its trailer at a boat ramp or being missing from its normal berthing area. Tutuila is divided into six areas, five of which are sampled. Presumably, fishing activity and success rate of boats in the non-sampled area are similar to those in the sampled areas. Further assumptions are that information given by the fishermen during the interview is accurate and that the fishermen interviewed are representative of the entire fishing population.

II.3

Survey data are collected in the field on interview log sheets and returned to the DMWR office for editing. The following information is collected for each interview:

- * Date
- * Type of day
- * Time
- * Boat name
Captain or boat owner's name
- * Method of fishing
- * Disposition of catch
- * Species caught
Number of pieces for each species
- * Weight in pounds for each species
Price per pound for each species
Area fished
- * Home island
Number of trips since last interview
- * Total trip weight in pounds
Total hours fished (trip length)
Number of fishermen
Number of gear used

It is not always possible for the interviewer to obtain information on all items listed. However, the ones marked with an asterisk (*) are considered essential for data expansion purposes. Identification and weight of each species are often not obtainable; in which case, a code for species groupings (e.g., miscellaneous bottom fish) is used.

DATA PROCESSING SYSTEM

Interview forms are returned to the office, edited, coded, and entered into computerized databases; the commercial landings database for data collected before October 1985 and the offshore creel survey database for data collected since then. Edit and summary reports are produced to help verify that the data were entered correctly. The creel survey data are then processed using the offshore data expansion system programmed by WPacFIN specifically for DMWR. The data expansion system is menu-driven and takes the user through a series of processes that summarize creel survey data to produce catch and effort expansion and species composition files and reports. Typically 1 month of data is processed at a time, although the system allows for processing broader time increments of data. The data expansion system was modified in 1992 to improve the estimates generated by the system by pooling interview data for the time period in calculating mean catch rates for each fishing method.

In fisheries applications, calculation of catch per unit of effort (CPUE) may be done in several ways. In the pre-1992 version of the data expansion system, average monthly CPUE was calculated by using daily CPUE's as observations and finding the simple mean of those observations. Daily CPUE measurements were calculated by dividing the sum of the catch by the sum of the hours fished from the interviews for each day sampled. The variance of the monthly mean CPUE was calculated using standard variance formulas with each daily CPUE as input to the equation, keeping day types and methods separate. This method requires a high interview rate be obtained for each day sampled if the daily estimates of effort, catch, and CPUE for each fishing method are to be representative of the whole offshore fishery. Since this is not always the case, it is believed that more representative estimates could be obtained by pooling interview data over the entire time period for which an expansion is being made and by using daily participation counts to estimate effort. Therefore, the new expansion algorithms implemented in 1992 calculate the monthly mean CPUE for each fishing method in the same way the daily measurements were previously calculated (the sum of the catch divided by the sum of the effort); however they also use all the interviews for the time period. The variance of the CPUE is estimated by using the standard, but more complex, formula for a ratio estimator. Sample day participation counts and percent coverage estimates are still used to estimate total effort, but the split of the effort between fishing methods and the mean CPUE for each method are now calculated using interviews collected during the entire time period, thus reducing the potential biases caused by the small number of interviews on any given sample day.

The new expansion system generates estimates of time-period catch, effort, and participation for each fishing method and day type. Percent species composition by weight is calculated from the sampled catch and used to create estimates of total landings by species by multiplying the sampled percent by the expanded estimated catch. All steps in the expansion process are stratified by fishing method. The expansion system produces reports and files of the final totals for all important catch and effort statistics. These files are later used to produce the reports contained in this document. On a quarterly basis, copies of the DMWR data bases are sent to the Honolulu Laboratory for updating the central WPacFIN files.

At the Honolulu Laboratory, the creel survey data are transferred to the central computer for further verification and processing before generating the summary reports contained in this report series. Because DMWR changed their data collecting systems during 1985, new processing procedures were established by WPacFIN to standardize reports as much as possible to facilitate comparisons between years. Data collected before October 1985 were adjusted upward by the percent coverage to account for missed trips. The offshore creel survey data collected since October 1985 were expanded to estimates of total Tutuila landings and then separated into commercial versus noncommercial landings (e.g., sold versus not sold). The expansion and separation algorithms stratify the data by fishing method to improve the final estimates of landings by species. After the file of estimated commercial landings for Tutuila was created from the expansion files, the adjusted commercial landings for Manu'a were added to it, thereby creating the commercial landings data base for American Samoa. Additionally, because price information was not obtained for all landings that were sold, the commercial data were edited to create price information when none was available. To accomplish this, a three-tiered editing system was designed to "create" price estimates based on the best information available. The edit system puts average price information in each record where it is missing, based on the following three levels of available information:

II.5

1. If price information is available for the same species in the same month, the weighted average price per pound is written into all records missing that information for that species and month.
2. If no price information is available for the same species and same month, the annual weighted average price for that species is written into records for that species and month.
3. If no price information is available for a species for the entire year, the program prompts the user for input and updates the file based on the response.

As database records are updated, each is flagged to indicate which level of estimation was used for the price information. This makes it possible to easily exclude the "created" data, if desired, when doing economic analysis.

DATA REPORTING SYSTEM

After all editing, quality control, and other processing activities are completed on the central WPacFIN computer, monthly and annual commercial landings reports by species are generated. Each of the commercial landings reports contains the common name, weight in pounds, value in dollars, and the average price per pound of each species or species group. Each monthly report contains a subtotal for the sum of all species for that month, and the December report contains the December subtotal and the annual total. Annual reports contain the total estimated commercial landings for each species and for all species combined for the calendar year.

The following species, species groups, and abbreviations are used in the tables and graphs of American Samoa's data:

I. Pelagic Management Unit Species (PMUS)

Although the Magnuson Fishery Conservation and Management of 1976 was amended in 1992 to include tunas in the PMUS (PPMUS), this report series will continue to tunas as a separate category from the PPMUS. The PMUS category includes:

Mahimahi (dolphin)
 Blue marlin
 Black marlin
 Sailfish
 Shortbill spearfish
 Wahoo
 Sharks

II. Bottomfish Management Unit Species (BMUS)

Jacks (unclassified)	Yellow opakapaka
Black jack	Hawaiian opakapaka
Amberjack	Opakapaka
Giant trevally	Gindai (flower snapper)
Bottom fish (unclassified)	Yellowtail snapper
Groupers (unclassified)	Lehi (silverjaw snapper)
Blacktip grouper	Onaga (red or longtail snapper)
Lunartail grouper	Ehu (red snapper)
Snappers (unclassified)	Emperorfish (unclassified)
Bluelined snapper	Ambon emperor
Gray jobfish (uku)	Redgill emperor
Deepwater bottom fish (unclassified)	

III. Billfish

Blue marlin
 Black marlin
 Sailfish
 Shortbill spearfish

IV. Tunas

Tunas (unclassified)

Skipjack tuna

Yellowfin tuna

Dogtooth tuna

Albacore

Bigeye tuna

Kawakawa

V. Other Tuna

The above tuna species excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagics

All PMUS and tuna species plus the following:

Troll fish (unclassified)

Barracuda

Rainbow runner

B. Bottom Fish

All BMUS plus the following:

Bigeye trevally

Bluefin trevally

Goldspot trevally

Trevally

Whitemouth trevally

Peacock grouper

Flagtail grouper

Tomato grouper

Yellowspot grouper

Striped grouper

Spotted grouper

Small mouth grouper

Giant grouper

Rufous snapper

Blacktail snapper

Onespot snapper

Twinspot/red snapper

Humpback snapper

Blood snapper

Brown snapper

Bluelined gindai

Black snapper

Stone's snapper

Kusakar's snapper

Bigeye emperor

Goldenline bream

Longnose emperor

Bluelined bream

Orangespot emperor

Snake mackerel

Oilfish

C. Reef Fish

Reef fish (unclassified)	Bigeye squirrelfish
Mullet	Parrotfish
Rabbitfish	Terapon perch
Surgeonfish and tangs (unclassified)	Wrasse
Lined surgeon	Goatfish (unclassified)
Yelloweyed surgeon	Pink goatfish
Convict tang	Inshore groupers (unclassified)
Dussumier's surgeon	Triggerfish
Spotted surgeon	Butterflyfish
Unicornfish	Porcupinefish
Squirrelfish (unclassified)	Inshore snappers (unclassified)
Berndt's soldierfish	

D. Other

Miscellaneous	Spiny lobster
Bigeye scad	Slipper lobster
Rays	Shrimp
Eels	Octopus
Invertebrates (unclassified)	Squid
Crabs (unclassified)	Clams
Kona crab	Turtle
Mangrove crab	

INTERPRETATION OF STATISTICS

The user is reminded to pay heed to the precautions and assumptions identified earlier in this document, when making interpretations of or inferences from data reported in the tables and graphs. Remember also that the commercial landings summaries are not based on a census of all the fishing activities, but on samples of those activities. One of the major factors in expanding the creel survey data into monthly and annual estimates is the use of proportionality constants to adjust for percent coverage of the surveys. The flexibility of the survey design allows for refinement of these constants as additional information is gained on the fishing activities. If the constants are improved upon, the basic survey data can be re-expanded to create better overall estimates. However, the variability and species composition would not be expected to change since these statistics are based on the actual survey information collected from the fishermen. The estimates of total landings are considered to be conservative because the catch from the subsistence inshore fisheries are currently not included in this document.

Table IIa.1.1

American Samoa 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	1,357	2,521	1.86
Bigeye scad	176	257	1.46
Jacks (misc)	1,674	3,141	1.88
Black jack	1,213	2,287	1.89
Trevally (C.caeruleop.)	99	99	1.00
Amberjack	78	155	2.00
Barracudas	3,619	5,849	1.62
Mulletts	26	51	1.95
Eels	73	143	1.96
Bottomfish (Assorted)	2,005	3,785	1.89
Groupers (misc)	959	1,829	1.91
Peacock grouper	363	678	1.87
Tomato grouper	258	510	1.98
Blacktip grouper	107	211	1.98
Yellowspot grouper	17	32	1.85
Striped grouper	17	32	1.95
Spotted grouper	11	19	1.85
Smalltooth grouper	15	29	1.90
Lunartail grouper	1,268	2,427	1.91
Bottom Handline Snappers	14	21	1.50
Blue lined snapper	2,341	4,424	1.89
Rufous snapper	36	69	1.91
Onespot snapper	188	347	1.85
Twinspot/red snapper	78	157	2.00
Humpback snapper	827	1,570	1.90
Gray jobfish	3,106	5,921	1.91
Yellow opakapaka	7	12	1.85
Hawaiian opakapaka	174	310	1.78
Yelloweye opakapaka (P.fl.)	693	1,336	1.93
Gindai (flower snap)	461	911	1.98
Lehi (silverjaw)	2,356	4,711	2.00
Onaga (longtail snapper)	2,836	5,869	2.07
Ehu (squirrelfish snap.)	2,663	5,571	2.09
Stone's snapper	232	464	2.00
Emperors (misc)	3,444	6,563	1.91
Longnose emperor	2,062	3,867	1.88
Ambon emperor	775	1,162	1.50
Orangespot emperor	514	951	1.85
Redgill emperor	1,552	2,870	1.85
Reef fish (Assorted)	15,388	29,141	1.89
Rudderfish	212	318	1.50
Rabbitfish	60	115	1.93
Surgeonfishes/tangs	16	30	1.95

Table IIa.1.1 (cont.)

Species	Pounds	Value	\$/lb
Lined surgeon	13,039	24,850	1.91
Striped bristletooth	1,298	2,468	1.90
Yellowfin surgeonfish	227	436	1.92
Unicornfishes (misc)	612	1,175	1.92
Squirrelfish	1,626	3,058	1.88
Saber squirrelfish	39	77	1.99
Bigscale soldierfish	14	27	1.91
Bigeye squirrelfish	3	6	2.00
Parrotfishes	15,490	29,442	1.90
Wrasse	77	149	1.94
Brwn wrasse:pataotao	75	143	1.90
Inshore groupers	3,858	7,322	1.90
Dolphin (mahimahi)	9,478	18,771	1.98
Swordfish	699	1,399	2.00
Blue marlin	22,884	26,083	1.14
Sailfish	3,864	3,864	1.00
Rainbow runner	1,097	1,268	1.16
Wahoo	8,129	8,481	1.04
Skipjack tuna	58,969	59,074	1.00
Dogtooth tuna	2,630	4,819	1.83
Albacore	181,536	191,043	1.05
Yellowfin tuna	71,658	140,131	1.96
Bigeye tuna	8,201	16,403	2.00
Kawakawa	69	69	1.00
Crabs	37	104	2.84
Kona crab	7	23	3.50
Spiny lobster	2,654	9,365	3.53
Octopus	309	590	1.91
Giant clam	4	15	3.75
** TOTAL **	461,952	651,420	1.41

Table IIa.1.2

American Samoa January 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	344	648	1.88
Black jack	202	384	1.90
Trevally (C.caeruleop.)	67	67	1.00
Barracudas	531	967	1.82
Peacock grouper	128	236	1.85
Yellowspot grouper	17	32	1.85
Lunartail grouper	190	356	1.87
Blue lined snapper	104	197	1.89
Humpback snapper	39	73	1.90
Gray jobfish	914	1,737	1.90
Gindai (flower snap)	27	51	1.90
Lehi (silverjaw)	107	203	1.90
Onaga (longtail snapper)	347	693	2.00
Ehu (squirrelfish snap.)	705	1,589	2.26
Emperors (misc)	726	1,386	1.91
Longnose emperor	609	1,145	1.88
Orangespot emperor	17	32	1.85
Redgill emperor	581	1,075	1.85
Reef fish (Assorted)	3,025	5,662	1.87
Lined surgeon	1,002	1,854	1.85
Striped bristletooth	111	205	1.85
Squirrelfish	262	482	1.84
Parrotfishes	1,468	2,715	1.85
Wrasse	46	92	2.00
Inshore groupers	302	558	1.85
Dolphin (mahimahi)	560	1,121	2.00
Blue marlin	2,217	2,439	1.10
Sailfish	309	309	1.00
Rainbow runner	203	203	1.00
Wahoo	966	970	1.00
Skipjack tuna	14,523	14,523	1.00
Dogtooth tuna	82	156	1.90
Albacore	32,239	30,627	0.95
Yellowfin tuna	6,804	13,434	1.97
Bigeye tuna	3,854	7,708	2.00
Spiny lobster	592	2,114	3.57
Octopus	5	7	1.40
** SUBTOTAL **	74,224	96,050	1.29

Table IIa.1.3

American Samoa February 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	238	458	1.92
Black jack	169	297	1.76
Barracudas	38	72	1.90
Groupers (misc)	61	115	1.89
Peacock grouper	11	22	2.00
Tomato grouper	65	124	1.90
Blacktip grouper	38	72	1.90
Lunartail grouper	43	86	1.99
Blue lined snapper	101	192	1.90
Humpback snapper	27	50	1.90
Gray jobfish	151	281	1.86
Gindai (flower snap)	71	124	1.75
Lehi (silverjaw)	35	61	1.75
Onaga (longtail snapper)	328	673	2.05
Ehu (squirrelfish snap.)	304	628	2.07
Emperors (misc)	170	324	1.91
Redgill emperor	299	554	1.85
Reef fish (Assorted)	2,453	4,655	1.90
Rudderfish	212	318	1.50
Lined surgeon	807	1,496	1.85
Striped bristletooth	77	142	1.85
Squirrelfish	87	160	1.85
Parrotfishes	1,099	2,033	1.85
Inshore groupers	207	382	1.85
Dolphin (mahimahi)	54	108	2.00
Blue marlin	3,828	4,211	1.10
Sailfish	366	366	1.00
Rainbow runner	346	413	1.19
Wahoo	9	11	1.25
Skipjack tuna	7,252	7,252	1.00
Dogtooth tuna	10	15	1.47
Albacore	11,291	12,373	1.10
Yellowfin tuna	2,896	5,654	1.95
Spiny lobster	248	819	3.30
Octopus	7	11	1.50
** SUBTOTAL **	33,398	44,553	1.33

Table IIa.1.4

American Samoa March 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	355	638	1.80
Jacks (misc)	25	47	1.88
Barracudas	208	349	1.68
Bottomfish (Assorted)	198	317	1.60
Groupers (misc)	45	85	1.89
Lunartail grouper	48	89	1.87
Blue lined snapper	225	428	1.90
Humpback snapper	82	155	1.89
Gray jobfish	353	671	1.90
Yelloweye opakapaka (P.fl.	7	15	2.00
Lehi (silverjaw)	586	1,172	2.00
Onaga (longtail snapper)	165	365	2.21
Emperors (misc)	218	410	1.88
Longnose emperor	310	589	1.90
Redgill emperor	242	460	1.90
Reef fish (Assorted)	2,592	4,889	1.89
Lined surgeon	639	1,182	1.85
Striped bristletooth	134	248	1.85
Yellowfin surgeonfish	20	37	1.88
Squirrelfish	130	240	1.85
Parrotfishes	1,008	1,864	1.85
Inshore groupers	246	454	1.85
Dolphin (mahimahi)	422	844	2.00
Blue marlin	3,295	3,625	1.10
Rainbow runner	195	281	1.44
Wahoo	9	11	1.25
Skipjack tuna	4,857	4,857	1.00
Dogtooth tuna	147	279	1.90
Albacore	5,482	5,886	1.07
Yellowfin tuna	7,098	13,623	1.92
Spiny lobster	450	1,502	3.34
Octopus	115	198	1.72
** SUBTOTAL **	29,904	45,810	1.53

Table IIa.1.5

American Samoa April 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	882	1,669	1.89
Barracudas	343	470	1.37
Bottomfish (Assorted)	1,370	2,636	1.92
Spotted grouper	11	19	1.85
Lunartail grouper	23	43	1.87
Blue lined snapper	87	164	1.89
Humpback snapper	37	69	1.85
Gray jobfish	120	228	1.90
Emperors (misc)	11	20	1.85
Longnose emperor	58	109	1.88
Reef fish (Assorted)	751	1,421	1.89
Lined surgeon	992	1,835	1.85
Striped bristletooth	102	189	1.85
Unicornfishes (misc)	15	27	1.85
Squirrelfish	136	251	1.85
Parrotfishes	1,434	2,653	1.85
Inshore groupers	428	791	1.85
Dolphin (mahimahi)	83	165	2.00
Blue marlin	828	911	1.10
Sailfish	424	424	1.00
Wahoo	1,285	1,286	1.00
Skipjack tuna	1,185	1,185	1.00
Dogtooth tuna	21	40	1.90
Albacore	3,241	3,356	1.04
Yellowfin tuna	3,748	7,391	1.97
Spiny lobster	130	468	3.60
Octopus	11	16	1.50
Giant clam	4	15	3.75
** SUBTOTAL **	17,755	27,848	1.57

Table IIa.1.6

American Samoa May 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad	8	8	1.00
Jacks (misc)	282	527	1.87
Black jack	84	157	1.87
Barracudas	215	389	1.81
Bottomfish (Assorted)	122	232	1.90
Groupers (misc)	64	121	1.88
Peacock grouper	104	193	1.85
Tomato grouper	11	22	1.98
Lunartail grouper	214	405	1.89
Blue lined snapper	328	619	1.89
Onespot snapper	55	102	1.85
Humpback snapper	387	735	1.90
Gray jobfish	469	891	1.90
Gindai (flower snap)	26	51	1.97
Lehi (silverjaw)	119	239	2.00
Onaga (longtail snapper)	151	307	2.03
Ehu (squirrelfish snap.)	178	361	2.03
Stone's snapper	9	18	2.00
Emperors (misc)	854	1,631	1.91
Longnose emperor	507	954	1.88
Ambon emperor	611	916	1.50
Reef fish (Assorted)	877	1,661	1.89
Rabbitfish	3	6	1.85
Lined surgeon	1,384	2,560	1.85
Striped bristletooth	115	213	1.85
Unicornfishes (misc)	70	129	1.85
Squirrelfish	171	315	1.84
Parrotfishes	1,427	2,640	1.85
Wrasse	31	56	1.85
Inshore groupers	458	848	1.85
Dolphin (mahimahi)	1,270	2,539	2.00
Blue marlin	1,583	1,742	1.10
Sailfish	493	493	1.00
Rainbow runner	153	153	1.00
Wahoo	16	20	1.25
Skipjack tuna	6,092	6,092	1.00
Albacore	2,489	2,937	1.18
Yellowfin tuna	12,846	25,596	1.99
Bigeye tuna	345	690	2.00
Crabs	6	8	1.50
Spiny lobster	130	479	3.68
Octopus	33	50	1.50
** SUBTOTAL **	34,790	58,105	1.67

Table IIa.1.7

American Samoa June 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad	114	143	1.25
Jacks (misc)	20	36	1.85
Black jack	60	90	1.50
Trevally (C.caeruleop.)	32	32	1.00
Barracudas	278	442	1.59
Bottomfish (Assorted)	76	144	1.90
Groupers (misc)	32	62	1.92
Peacock grouper	21	38	1.85
Tomato grouper	4	8	1.98
Blacktip grouper	15	29	1.95
Lunartail grouper	73	142	1.94
Blue lined snapper	233	444	1.91
Humpback snapper	62	117	1.90
Gray jobfish	153	293	1.92
Yellow opakapaka	7	12	1.85
Yelloweye opakapaka (P.fl.	20	30	1.50
Gindai (flower snap)	35	69	1.97
Onaga (longtail snapper)	119	242	2.03
Ehu (squirrelfish snap.)	126	256	2.03
Stone's snapper	55	110	2.00
Emperors (misc)	189	359	1.90
Reef fish (Assorted)	1,124	2,114	1.88
Rabbitfish	12	22	1.85
Lined surgeon	1,207	2,243	1.86
Striped bristletooth	84	155	1.85
Yellowfin surgeonfish	93	172	1.85
Unicornfishes (misc)	67	124	1.85
Squirrelfish	93	173	1.86
Parrotfishes	1,598	2,965	1.86
Inshore groupers	366	678	1.86
Dolphin (mahimahi)	328	657	2.00
Blue marlin	1,343	1,478	1.10
Sailfish	840	840	1.00
Rainbow runner	45	57	1.25
Wahoo	336	339	1.01
Skipjack tuna	3,998	3,998	1.00
Dogtooth tuna	34	60	1.75
Albacore	621	590	0.95
Yellowfin tuna	8,099	16,065	1.98
Bigeye tuna	278	556	2.00
Spiny lobster	94	341	3.62
** SUBTOTAL **	22,381	36,722	1.64

Table IIa.1.8

American Samoa July 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	20	37	1.90
Black jack	92	181	1.96
Barracudas	480	723	1.50
Bottomfish (Assorted)	145	276	1.90
Groupers (misc)	175	333	1.90
Tomato grouper	16	32	2.00
Lunartail grouper	56	110	1.95
Blue lined snapper	128	243	1.90
Rufous snapper	25	47	1.88
Onespot snapper	119	220	1.85
Humpback snapper	137	260	1.90
Gray jobfish	186	354	1.91
Gindai (flower snap)	37	74	2.00
Lehi (silverjaw)	241	482	2.00
Onaga (longtail snapper)	223	460	2.06
Ehu (squirrelfish snap.)	138	276	2.00
Stone's snapper	25	50	2.00
Emperors (misc)	471	895	1.90
Longnose emperor	53	99	1.88
Orangespot emperor	35	65	1.85
Redgill emperor	71	131	1.85
Reef fish (Assorted)	1,335	2,509	1.88
Lined surgeon	994	1,904	1.91
Striped bristletooth	86	165	1.91
Yellowfin surgeonfish	8	14	1.85
Unicornfishes (misc)	172	326	1.89
Squirrelfish	85	162	1.92
Bigscale soldierfish	11	21	1.90
Parrotfishes	1,403	2,668	1.90
Inshore groupers	335	637	1.90
Dolphin (mahimahi)	2,066	4,035	1.95
Blue marlin	1,103	1,213	1.10
Sailfish	507	507	1.00
Wahoo	899	909	1.01
Skipjack tuna	2,197	2,197	1.00
Dogtooth tuna	75	129	1.72
Albacore	8,946	8,498	0.95
Yellowfin tuna	7,320	14,390	1.97
Bigeye tuna	1,729	3,457	2.00
Crabs	7	10	1.50
Spiny lobster	114	408	3.59
Octopus	83	219	2.63
** SUBTOTAL **	32,347	49,728	1.54

Table IIa.1.9

American Samoa August 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	118	229	1.94
Black jack	52	104	2.00
Barracudas	156	195	1.25
Mulletts	8	16	1.95
Bottomfish (Assorted)	95	181	1.90
Groupers (misc)	94	182	1.94
Peacock grouper	9	18	2.00
Tomato grouper	35	67	1.91
Blacktip grouper	20	38	1.90
Striped grouper	17	32	1.95
Smalltooth grouper	15	29	1.90
Lunartail grouper	64	122	1.91
Blue lined snapper	62	118	1.90
Rufous snapper	1	2	1.95
Gray jobfish	92	163	1.77
Hawaiian opakapaka	40	60	1.50
Yelloweye opakapaka (P.fl.)	30	45	1.50
Gindai (flower snap)	28	56	2.00
Lehi (silverjaw)	9	18	2.00
Onaga (longtail snapper)	123	246	2.00
Ehu (squirrelfish snap.)	145	290	2.00
Stone's snapper	19	38	2.00
Emperors (misc)	34	64	1.91
Reef fish (Assorted)	863	1,594	1.85
Rabbitfish	4	7	1.95
Surgeonfishes/tangs	16	30	1.95
Lined surgeon	1,489	2,887	1.94
Striped bristletooth	44	85	1.94
Unicornfishes (misc)	40	77	1.95
Squirrelfish	56	108	1.95
Parrotfishes	1,524	2,960	1.94
Brwn wrasse:pataotao	75	143	1.90
Inshore groupers	354	687	1.94
Dolphin (mahimahi)	792	1,498	1.89
Blue marlin	662	1,428	2.16
Rainbow runner	15	19	1.25
Wahoo	339	432	1.27
Skipjack tuna	2,892	2,997	1.04
Dogtooth tuna	200	250	1.25
Albacore	3,775	3,586	0.95
Yellowfin tuna	2,770	4,708	1.70
Bigeye tuna	1,344	2,688	2.00
Kawakawa	5	5	1.00
Spiny lobster	265	900	3.40
Octopus	22	39	1.75
** SUBTOTAL **	18,808	29,440	1.57

Table IIa.1.10

American Samoa September 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad	11	21	1.95
Jacks (misc)	104	196	1.89
Black jack	173	283	1.63
Barracudas	152	237	1.56
Mulletts	13	25	1.95
Eels	8	16	1.95
Groupers (misc)	78	142	1.82
Tomato grouper	33	64	1.96
Blacktip grouper	6	12	2.00
Lunartail grouper	72	142	1.96
Blue lined snapper	53	103	1.95
Gray jobfish	55	108	1.95
Hawaiian opakapaka	36	54	1.50
Yelloweye opakapaka (P.fl.)	211	399	1.89
Gindai (flower snap)	57	113	2.00
Lehi (silverjaw)	78	157	2.00
Onaga (longtail snapper)	237	475	2.00
Ehu (squirrelfish snap.)	171	342	2.00
Emperors (misc)	73	142	1.95
Reef fish (Assorted)	72	137	1.90
Rabbitfish	27	53	1.95
Lined surgeon	1,336	2,605	1.95
Striped bristletooth	259	505	1.95
Yellowfin surgeonfish	3	5	1.95
Unicornfishes (misc)	124	242	1.95
Squirrelfish	86	168	1.95
Parrotfishes	1,278	2,484	1.94
Inshore groupers	332	646	1.95
Dolphin (mahimahi)	417	834	2.00
Blue marlin	3,295	3,624	1.10
Rainbow runner	12	15	1.25
Wahoo	408	448	1.10
Skipjack tuna	3,007	3,007	1.00
Dogtooth tuna	61	111	1.82
Albacore	16,589	15,760	0.95
Yellowfin tuna	4,836	9,466	1.96
Bigeye tuna	279	557	2.00
Spiny lobster	81	289	3.58
** SUBTOTAL **	34,122	43,985	1.29

Table IIa.1.11

American Samoa October 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	86	164	1.91
Jacks (misc)	260	489	1.88
Black jack	148	327	2.21
Barracudas	346	570	1.65
Mulletts	5	10	1.95
Eels	10	20	1.95
Groupers (misc)	167	317	1.91
Peacock grouper	78	146	1.88
Tomato grouper	39	84	2.16
Blacktip grouper	28	60	2.14
Lunartail grouper	372	711	1.91
Blue lined snapper	195	371	1.90
Rufous snapper	4	8	1.95
Onespot snapper	14	25	1.85
Twinspot/red snapper	20	40	2.00
Humpback snapper	22	43	1.93
Gray jobfish	380	744	1.96
Hawaiian opakapaka	64	128	2.00
Yelloweye opakapaka (P.fl.	53	106	2.00
Gindai (flower snap)	68	147	2.16
Lehi (silverjaw)	236	489	2.07
Onaga (longtail snapper)	287	614	2.14
Ehu (squirrelfish snap.)	333	703	2.11
Emperors (misc)	227	435	1.91
Longnose emperor	15	27	1.88
Ambon emperor	164	247	1.50
Redgill emperor	102	189	1.85
Reef fish (Assorted)	1,394	2,710	1.94
Rabbitfish	5	10	1.95
Lined surgeon	1,057	2,061	1.95
Striped bristletooth	116	226	1.95
Yellowfin surgeonfish	11	20	1.95
Squirrelfish	157	301	1.92
Saber squirrelfish	17	34	1.97
Bigeye squirrelfish	3	6	2.00
Parrotfishes	916	1,838	2.01
Inshore groupers	258	502	1.95
Dolphin (mahimahi)	2,035	4,070	2.00
Blue marlin	2,002	2,412	1.20

Table IIa.1.11 (Cont.)

Species	Pounds	Value	\$/lb
Sailfish	117	117	1.00
Rainbow runner	87	87	1.00
Wahoo	693	697	1.01
Skipjack tuna	6,032	6,032	1.00
Dogtooth tuna	72	108	1.50
Albacore	30,610	30,916	1.01
Yellowfin tuna	2,388	4,629	1.94
Kawakawa	64	64	1.00
Spiny lobster	219	835	3.81
Octopus	22	32	1.49
** SUBTOTAL **	51,994	64,920	1.25

Table IIa.1.12

American Samoa November 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad	43	86	2.00
Jacks (misc)	65	126	1.92
Black jack	92	184	2.00
Amberjack	78	155	2.00
Barracudas	699	1,212	1.73
Eels	55	108	1.97
Groupers (misc)	95	187	1.98
Peacock grouper	12	24	2.00
Tomato grouper	27	54	2.00
Lunartail grouper	64	124	1.94
Blue lined snapper	227	434	1.91
Rufous snapper	7	13	1.97
Twinspot/red snapper	51	101	2.00
Humpback snapper	17	32	1.90
Gray jobfish	190	366	1.92
Hawaiian opakapaka	34	67	2.00
Yelloweye opakapaka (P.fl.)	212	423	2.00
Gindai (flower snap)	39	78	2.00
Lehi (silverjaw)	294	589	2.00
Onaga (longtail snapper)	164	328	2.00
Ehu (squirrelfish snap.)	247	494	2.00
Emperors (misc)	421	809	1.92
Redgill emperor	256	461	1.80
Reef fish (Assorted)	696	1,392	2.00
Rabbitfish	9	17	2.00
Lined surgeon	1,104	2,188	1.98
Striped bristletooth	71	140	1.97
Yellowfin surgeonfish	56	111	2.00
Unicornfishes (misc)	54	107	2.00
Squirrelfish	127	243	1.92
Saber squirrelfish	2	4	1.95
Bigscale soldierfish	3	6	1.95
Parrotfishes	1,376	2,721	1.98
Inshore groupers	333	661	1.98
Dolphin (mahimahi)	617	1,233	2.00
Swordfish	699	1,399	2.00
Blue marlin	2,728	3,001	1.10
Sailfish	808	808	1.00
Rainbow runner	41	41	1.00
Wahoo	1,644	1,644	1.00
Skipjack tuna	1,675	1,675	1.00
Dogtooth tuna	74	143	1.92
Albacore	37,304	44,668	1.20
Yellowfin tuna	4,836	9,627	1.99
Bigeye tuna	373	746	2.00
Crabs	4	14	3.50

Table IIa.1.12 (Cont.)

Species	Pounds	Value	\$/lb
Kona crab	7	23	3.50
Spiny lobster	174	626	3.59
Octopus	12	20	1.65
** SUBTOTAL **	58,212	79,713	1.37

Table IIa.1.13

American Samoa December 1996 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	34	51	1.50
Jacks (misc)	199	348	1.75
Black jack	140	280	2.00
Barracudas	172	223	1.30
Groupers (misc)	150	285	1.91
Tomato grouper	28	56	2.00
Lunartail grouper	48	96	2.00
Bottom Handline Snappers	14	21	1.50
Blue lined snapper	599	1,112	1.86
Twinspot/red snapper	8	16	2.00
Humpback snapper	18	36	2.00
Gray jobfish	44	85	1.94
Yelloweye opakapaka (P.fl.)	159	318	2.00
Gindai (flower snap)	74	148	2.00
Lehi (silverjaw)	651	1,301	2.00
Onaga (longtail snapper)	692	1,466	2.12
Ehu (squirrelfish snap.)	316	632	2.00
Stone's snapper	124	248	2.00
Emperors (misc)	52	89	1.71
Longnose emperor	510	944	1.85
Orangespot emperor	462	854	1.85
Reef fish (Assorted)	209	397	1.90
Lined surgeon	1,029	2,037	1.98
Striped bristletooth	100	195	1.96
Yellowfin surgeonfish	38	76	2.00
Unicornfishes (misc)	72	143	2.00
Squirrelfish	238	455	1.91
Saber squirrelfish	20	40	2.00
Parrotfishes	962	1,900	1.98
Inshore groupers	242	476	1.97
Dolphin (mahimahi)	834	1,668	2.00
Wahoo	1,526	1,714	1.12
Skipjack tuna	5,258	5,258	1.00
Dogtooth tuna	1,854	3,529	1.90
Albacore	28,951	31,846	1.10
Yellowfin tuna	8,016	15,547	1.94
Crabs	21	72	3.50
Spiny lobster	158	585	3.71
** SUBTOTAL **	54,017	74,547	1.38
** TOTAL **	461,952	651,420	1.41

Figure IIa.1.1

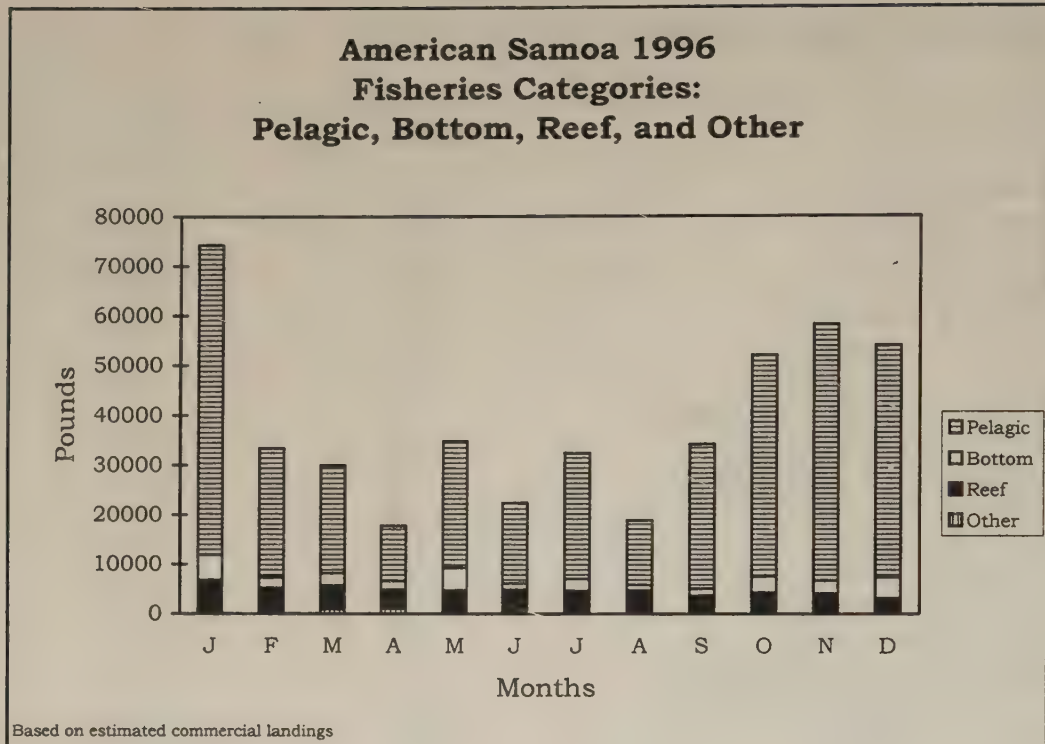


Figure IIa.1.2

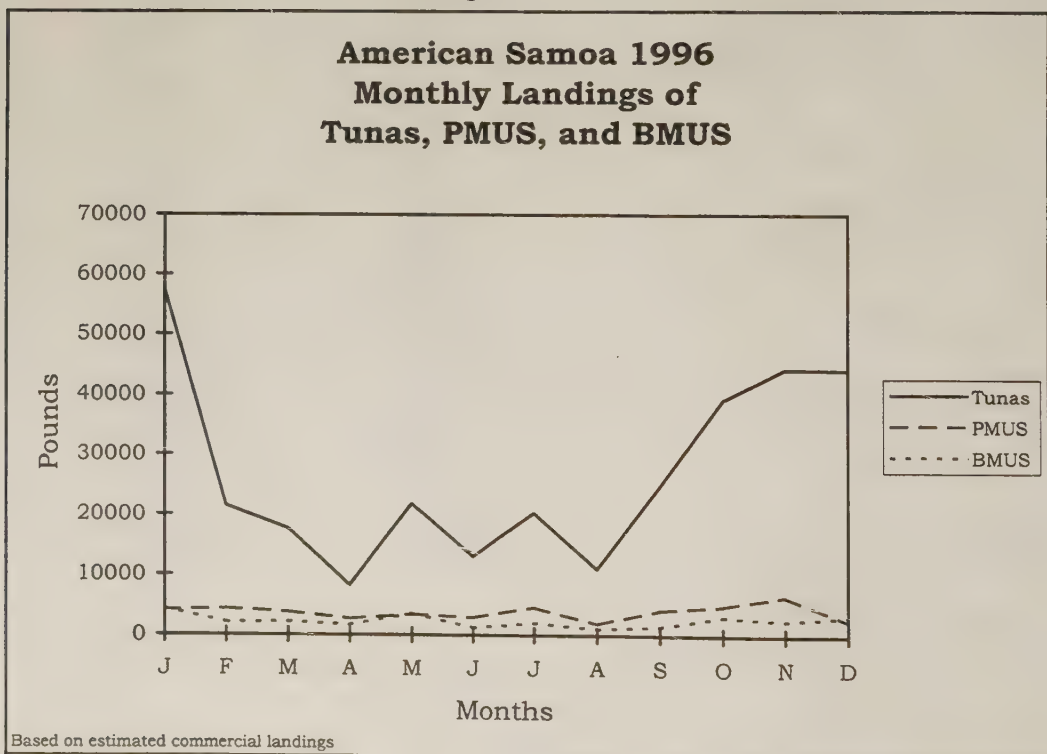


Figure IIa.1.3

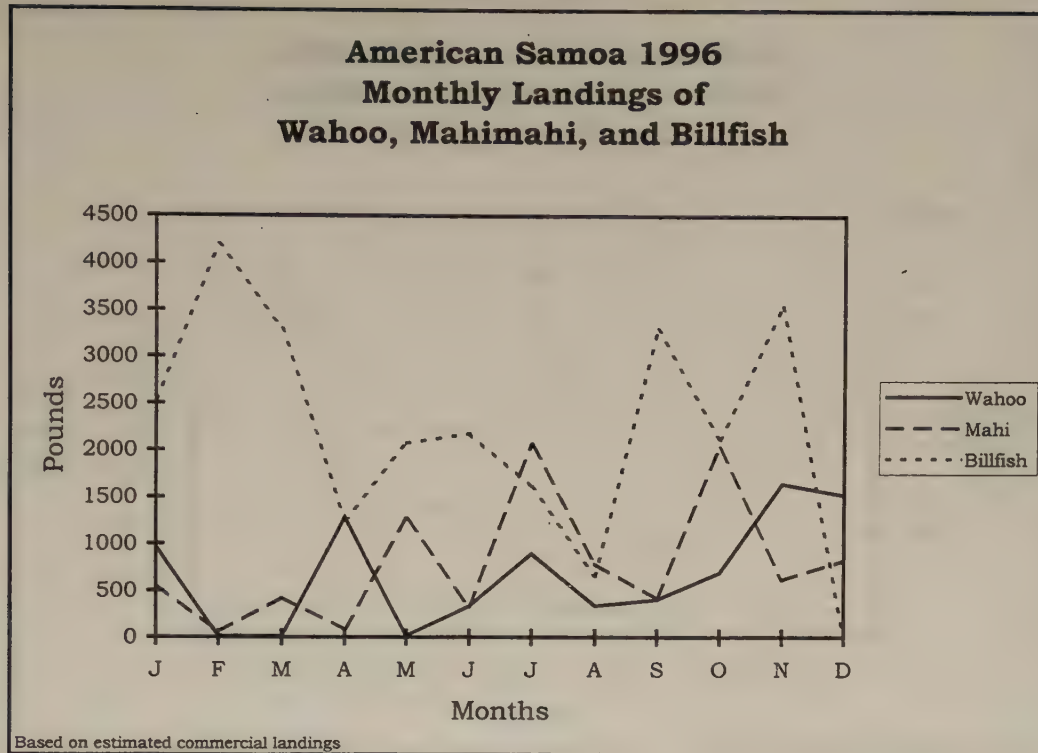


Figure IIa.1.4

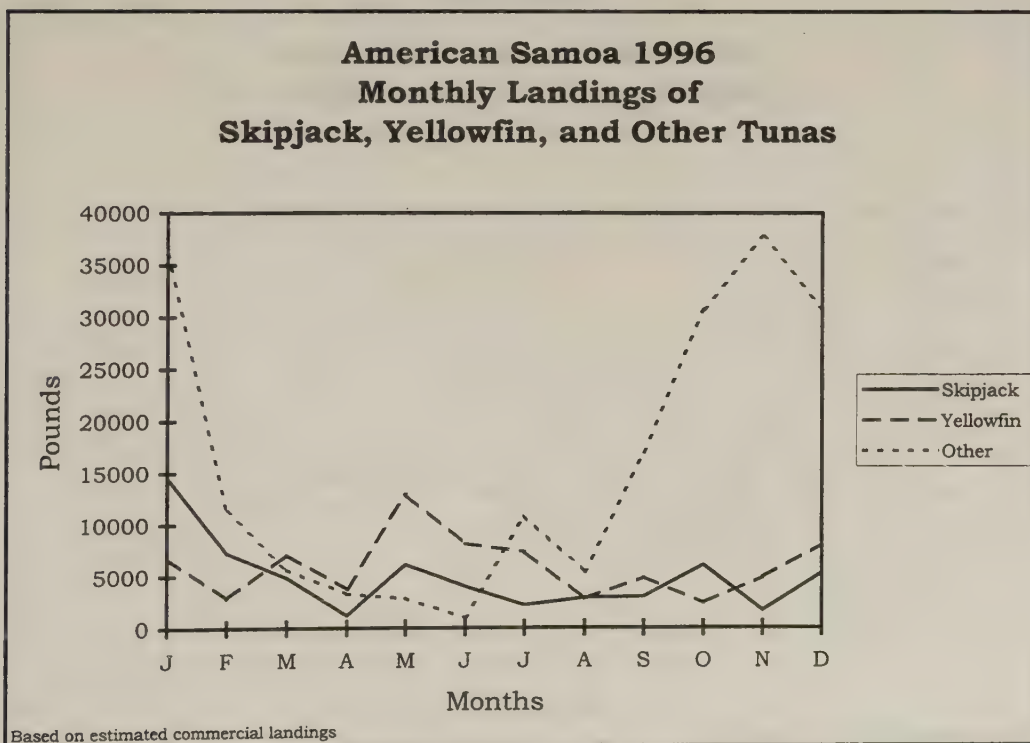


Figure IIa.2.1

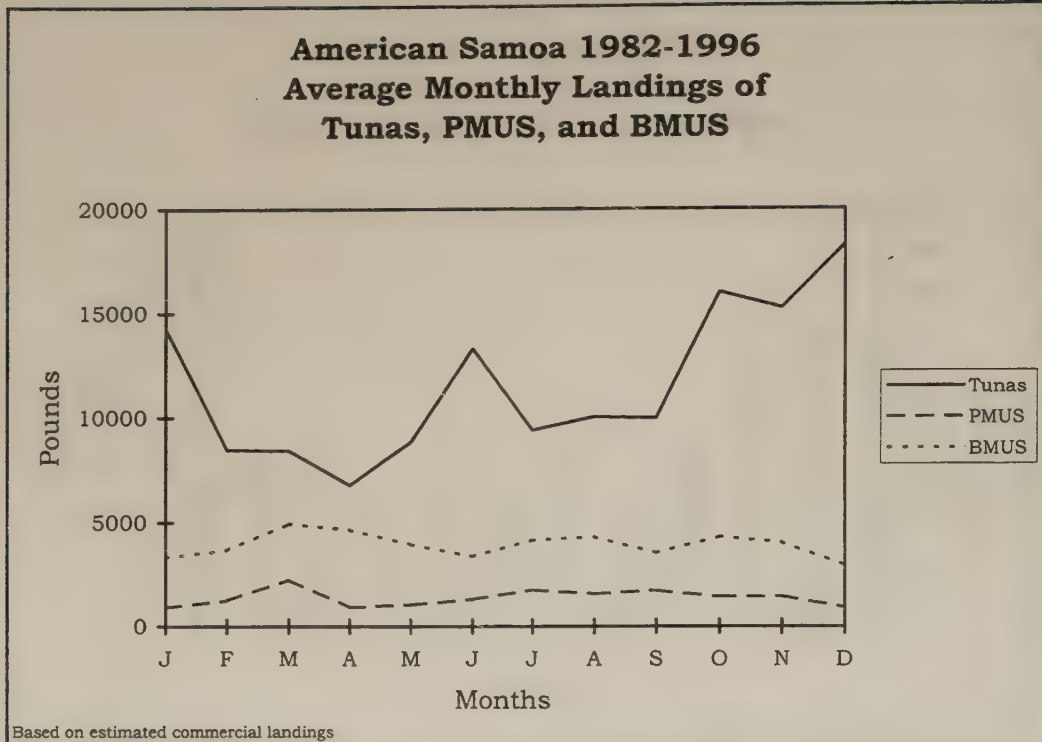


Figure IIa.2.2

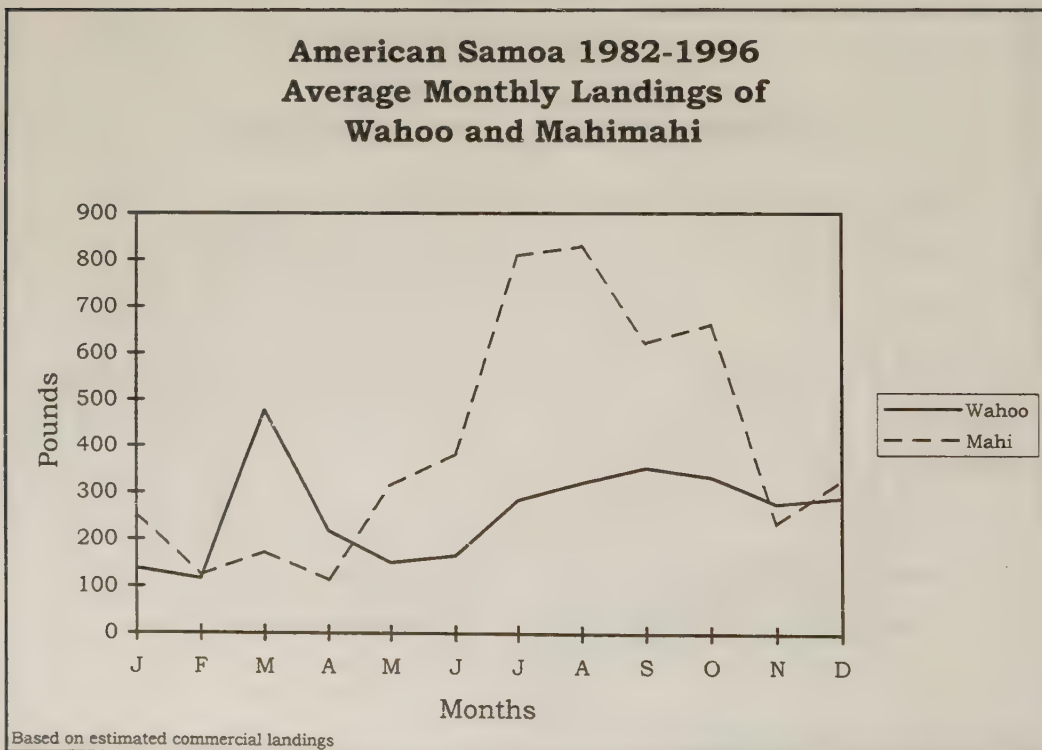


Figure IIa.2.3

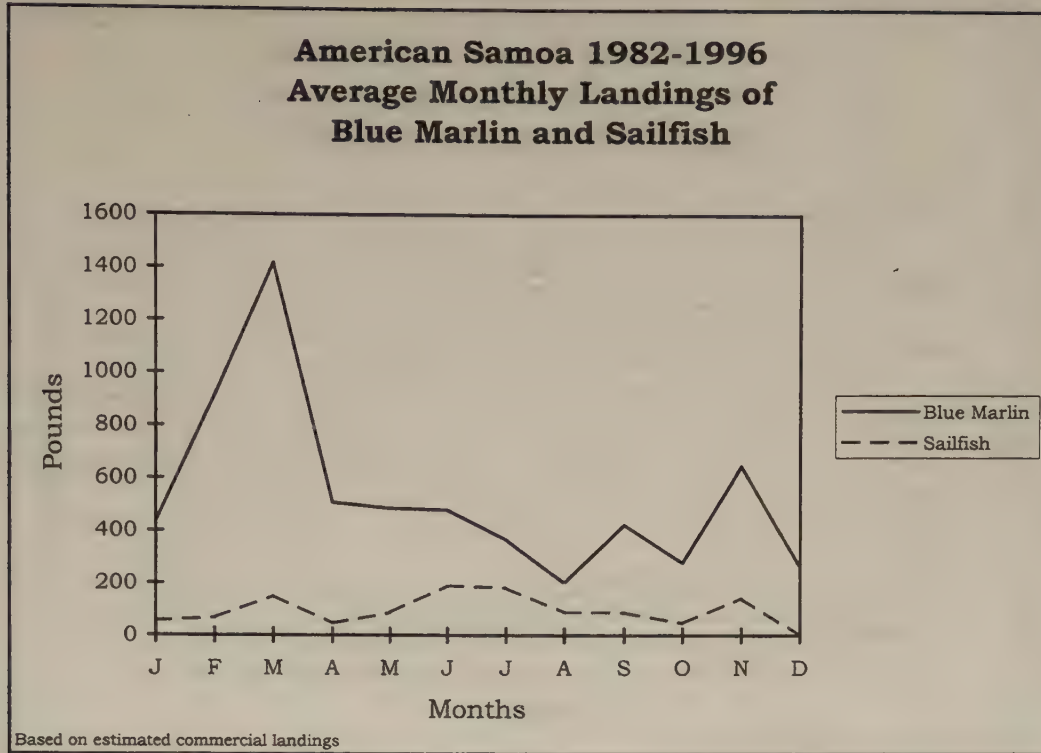


Figure IIa.2.4

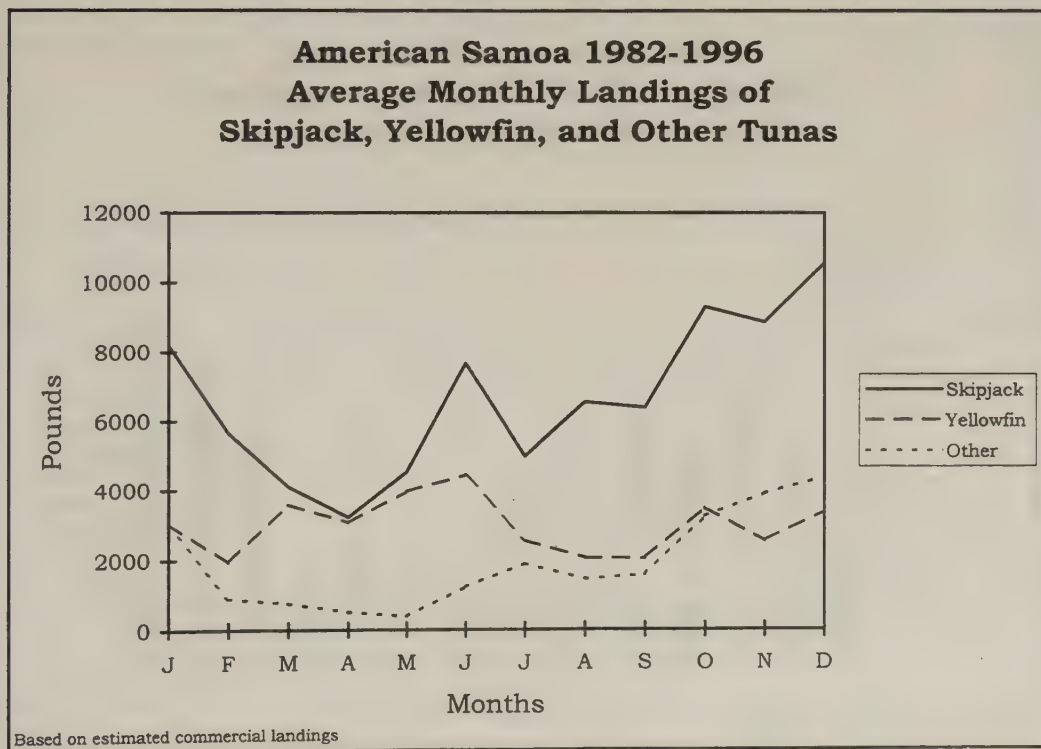


Figure IIa.2.5

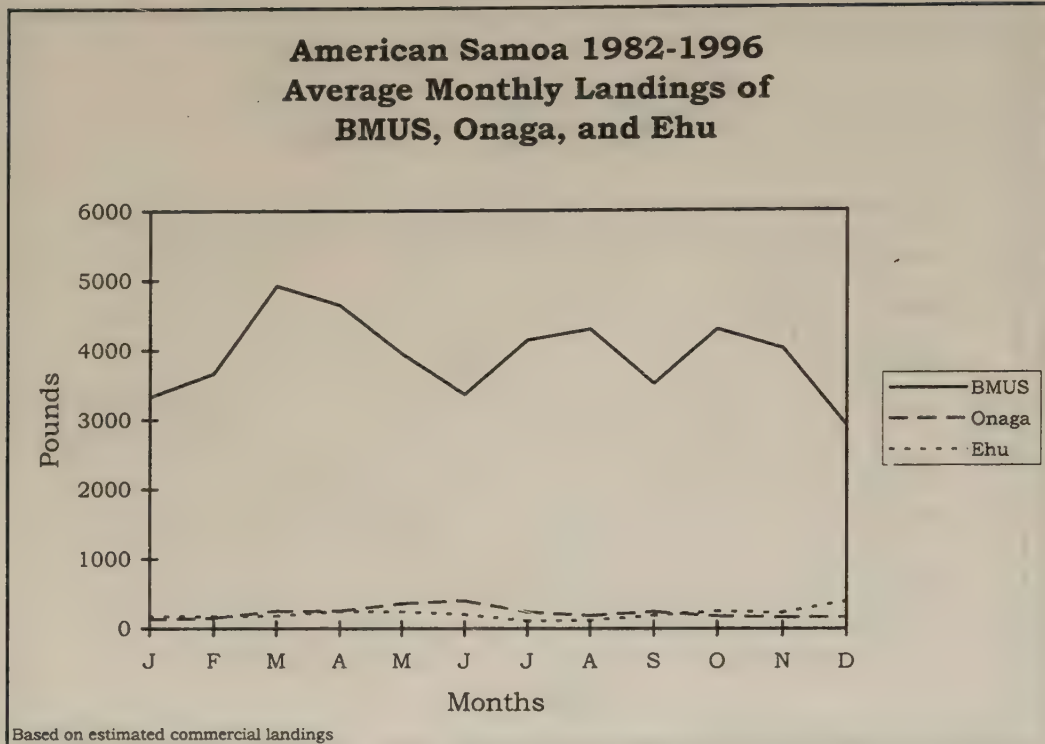


Figure IIa.3.1

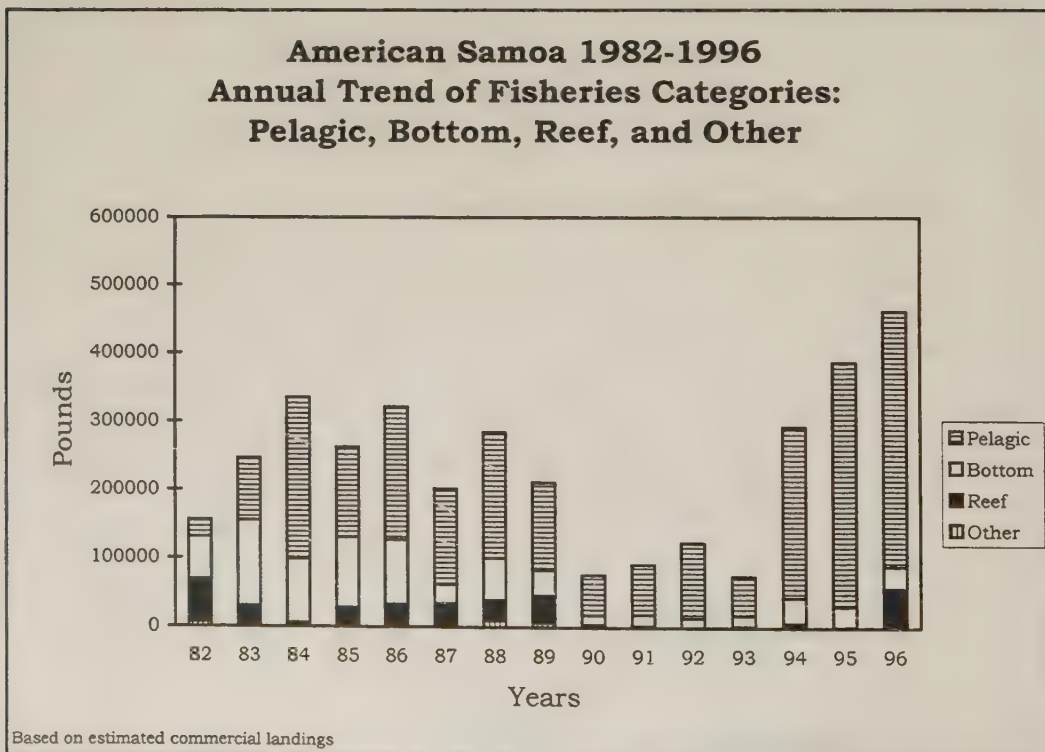


Figure IIa.3.2

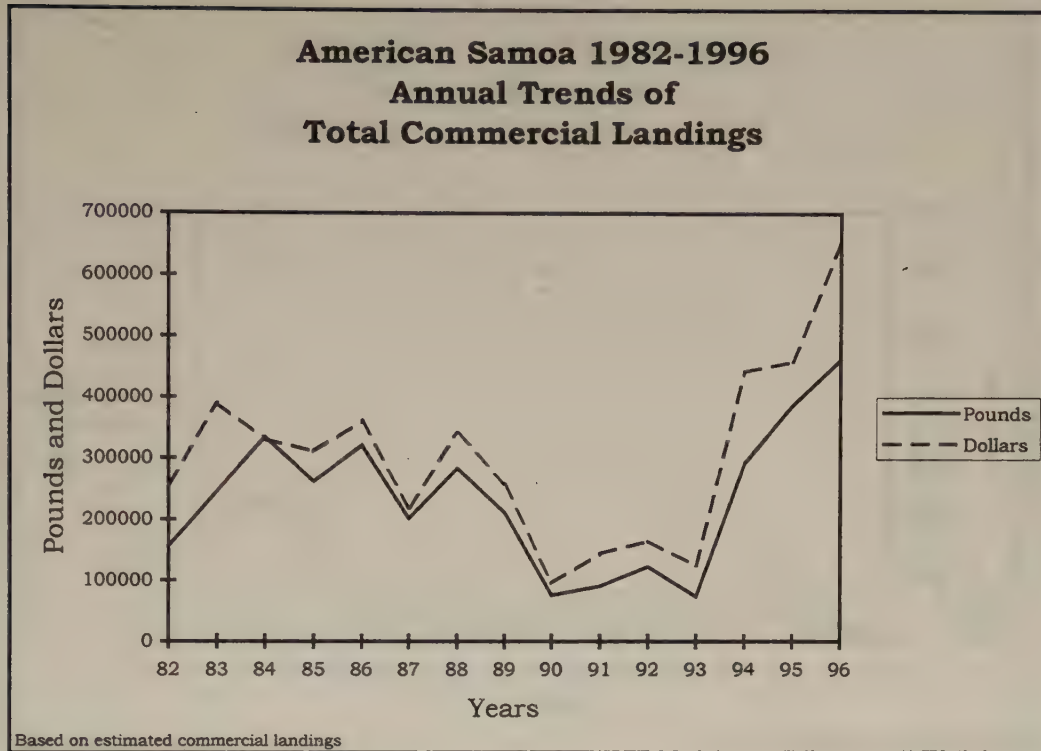


Figure IIa.3.3

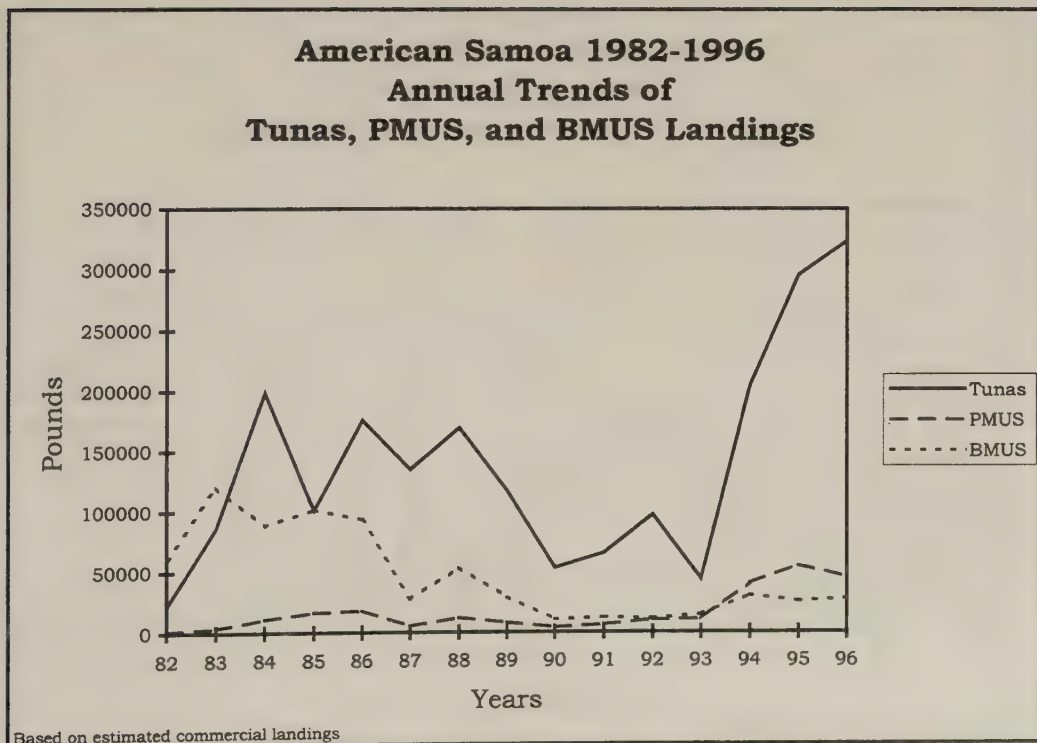


Figure IIa.3.4

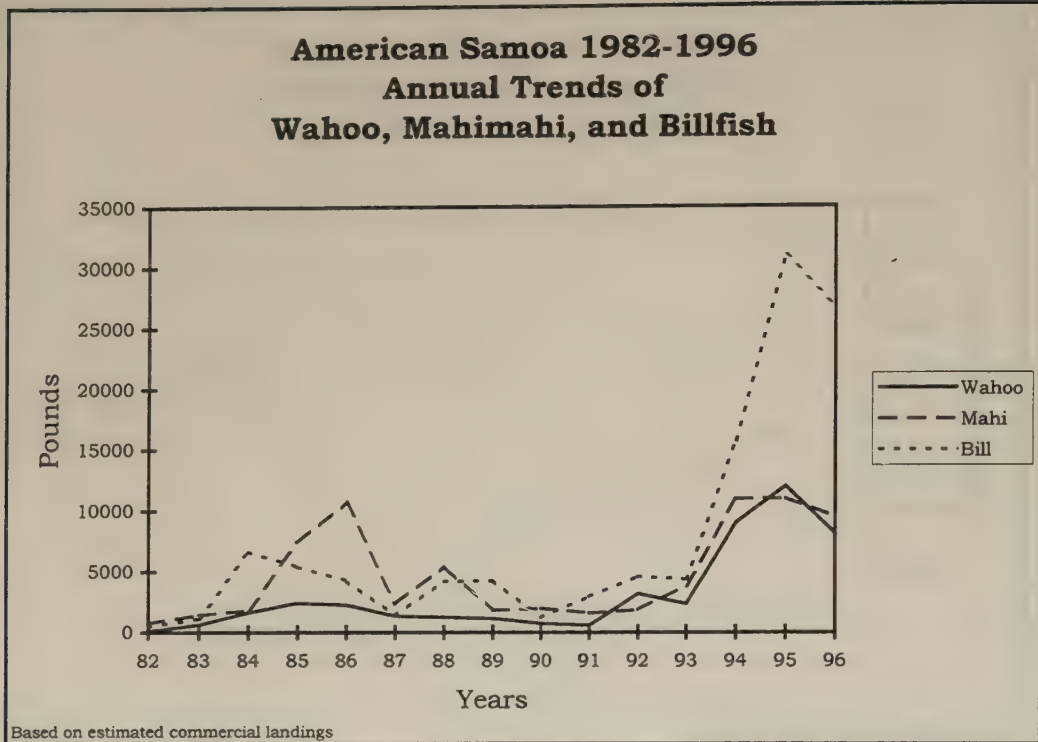


Figure IIa.3.5

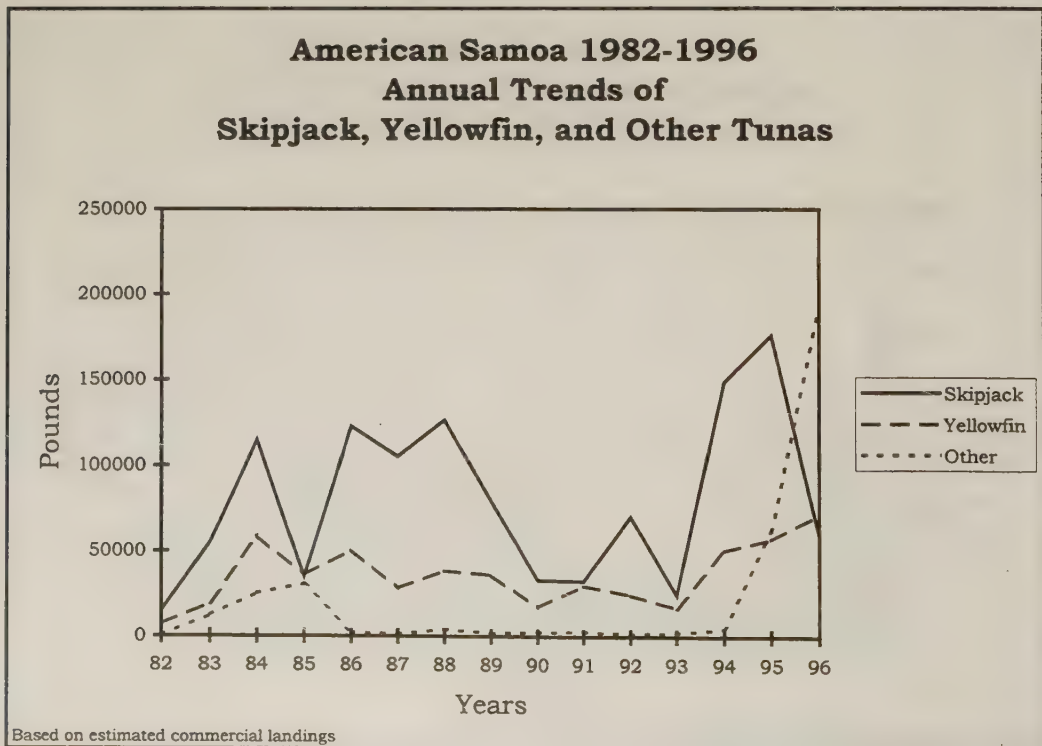


Figure IIa.4.1

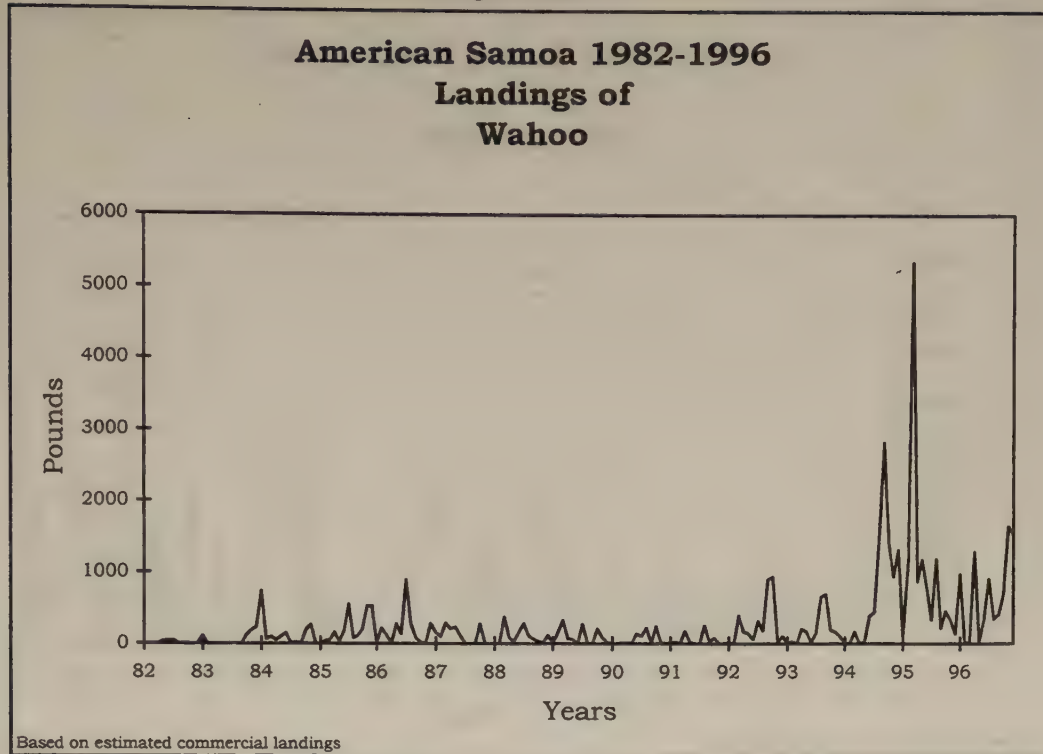


Figure IIa.4.2

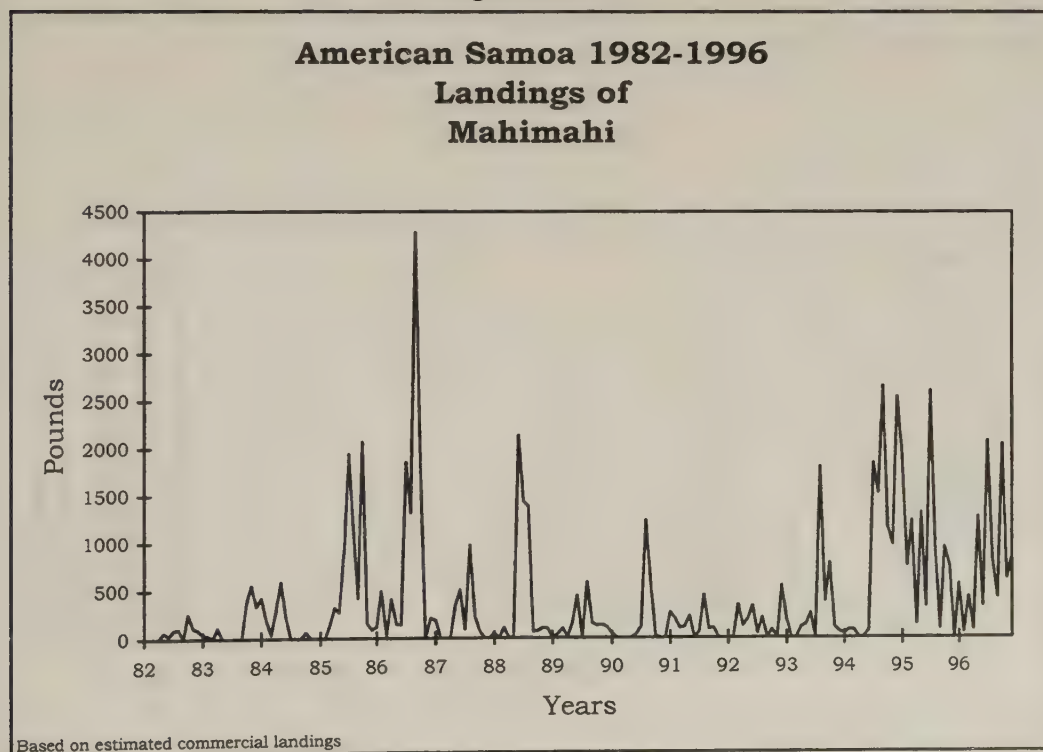


Figure IIa.4.3

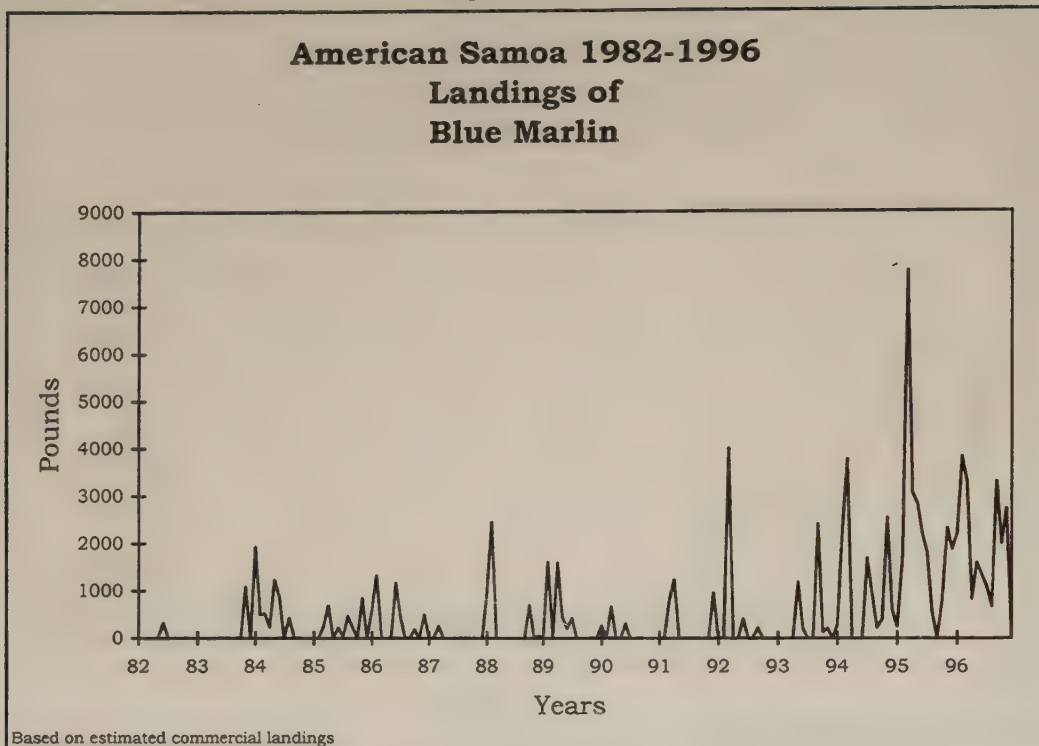


Figure IIa.4.4

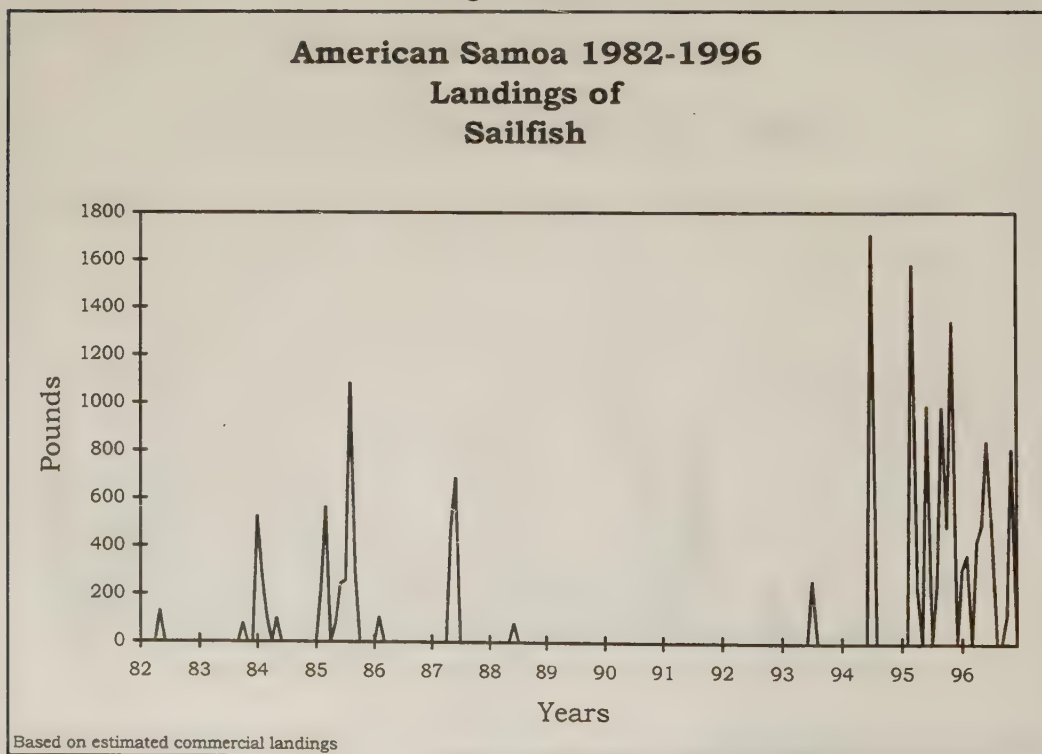


Figure IIa.4.5

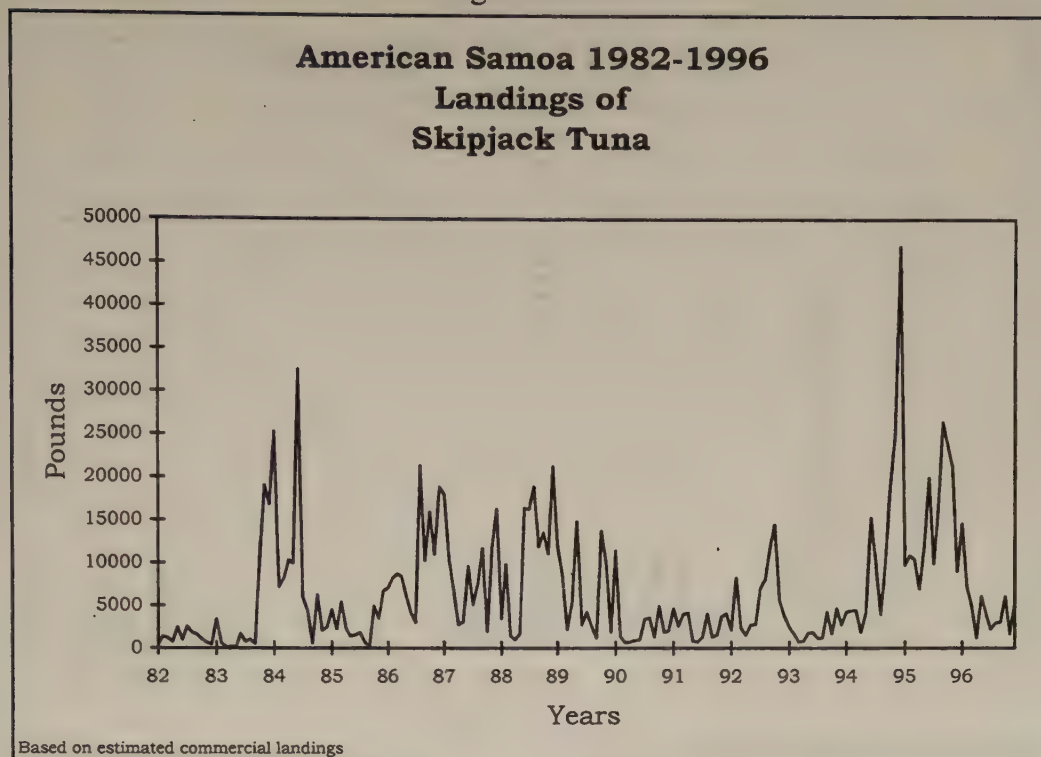


Figure IIa.4.6

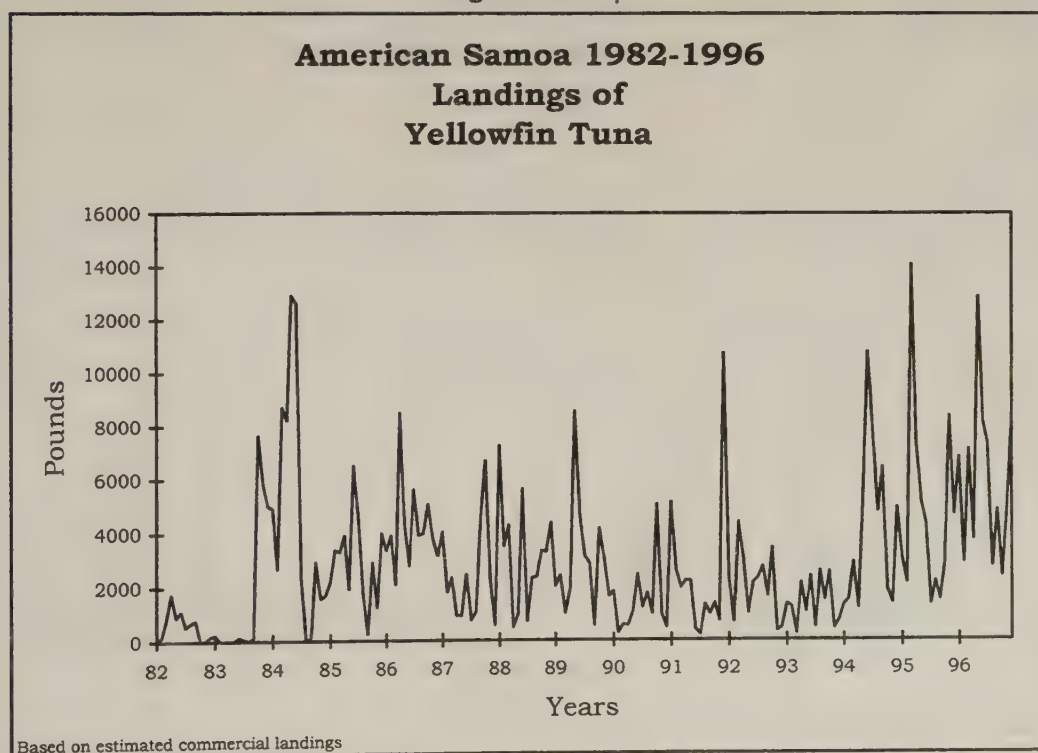


Figure IIa.4.7

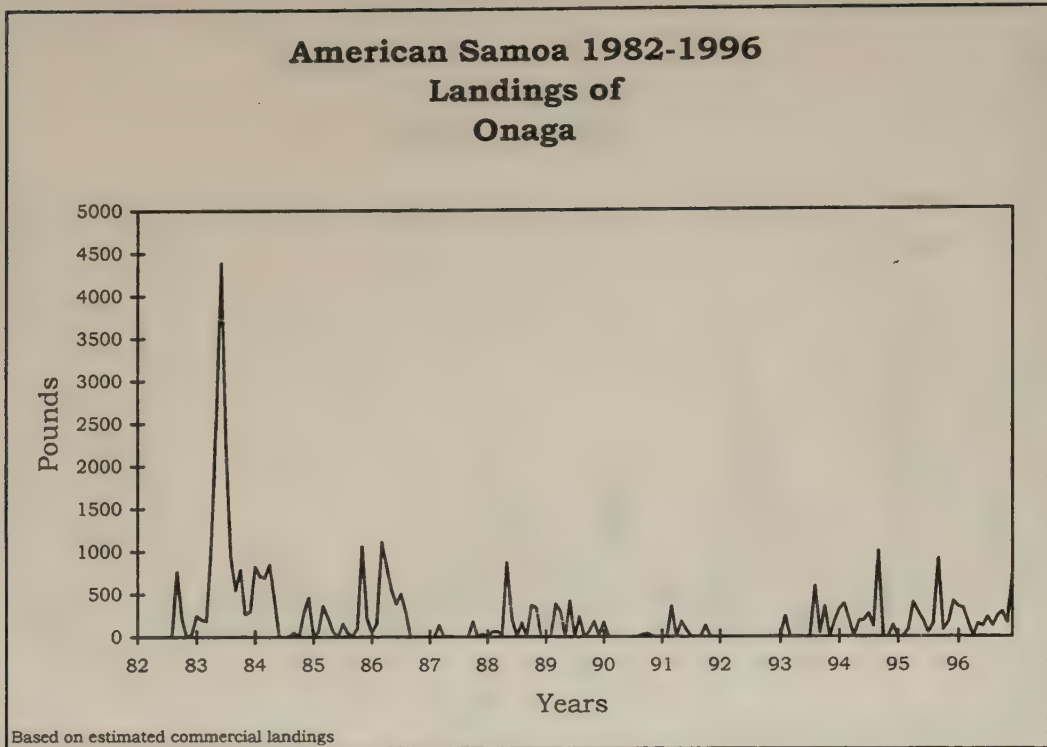


Figure IIa.4.8

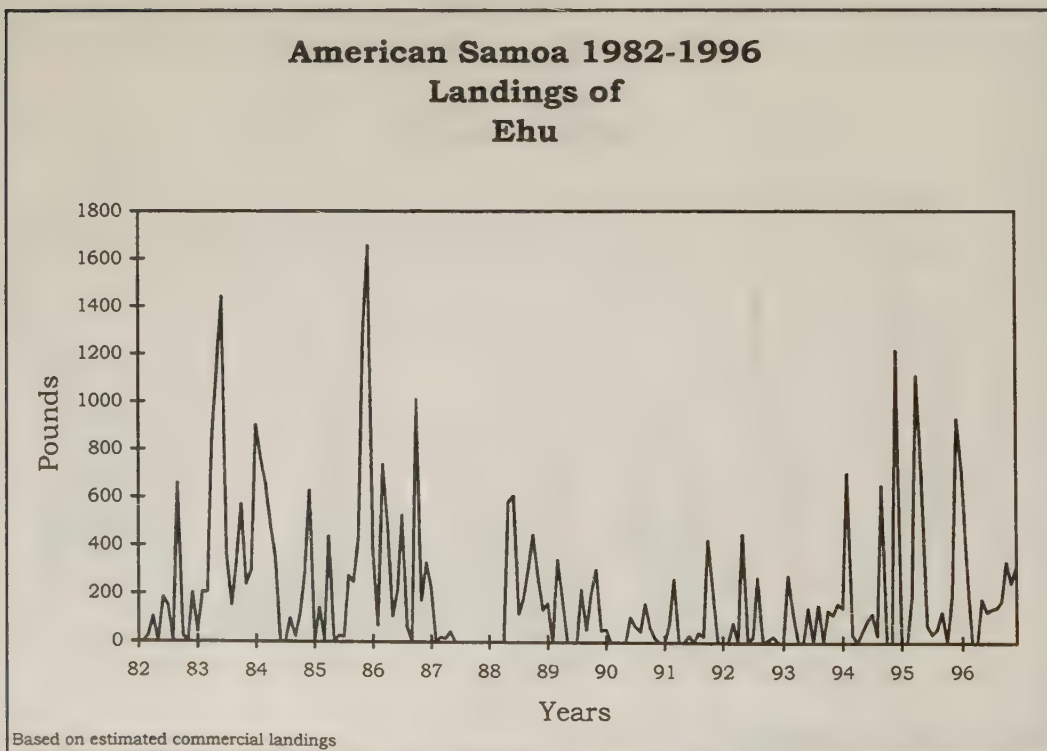


Table IIb.1.1

American Samoa 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	1,210	2,332	1.93
Bigeye scad	565	1,130	2.00
Jacks (misc)	1,368	2,782	2.03
Black jack	1,808	3,964	2.19
Bigeye trevally	289	563	1.95
Trevally (C.caeruleop.)	8	15	2.00
Whitemouth trevally	13	25	1.90
Amberjack	60	120	2.00
Giant trevally	10	15	1.50
Barracudas	4,777	9,155	1.92
Large barracuda	446	668	1.50
Small barracuda	2,779	4,877	1.76
Mulletts	17	34	2.00
Sharks	5,650	753	0.13
Rays	32	32	1.00
Bottomfish (Assorted)	104	209	2.00
Groupers (misc)	611	1,226	2.01
Peacock grouper	5	10	2.00
Flagtail grouper	44	88	2.00
Tomato grouper	229	488	2.13
Blacktip grouper	35	79	2.25
Striped grouper	8	20	2.50
Spotted grouper	4	8	2.00
Lunartail grouper	1,171	2,537	2.17
Blue lined snapper	3,710	7,649	2.06
Blacktail snapper	5	10	2.00
Onespot snapper	95	202	2.12
Twinspot/red snapper	201	452	2.25
Humpback snapper	1,729	3,726	2.15
Gray jobfish	2,230	4,936	2.21
Yellow opakapaka	1,190	2,405	2.02
Hawaiian opakapaka	58	175	3.00
Gindai (flower snap)	458	1,249	2.73
Lehi (silverjaw)	1,740	3,707	2.13
Onaga (longtail snapper)	2,189	5,442	2.49
Ehu (squirrelfish snap.)	1,414	3,238	2.29
Stone's snapper	107	192	1.79
Kusakar's snapper	15	29	2.00
Emperors (misc)	2,855	5,618	1.97
Longnose emperor	237	474	2.00
Orangespot emperor	137	274	2.00
Redgill emperor	1,234	2,778	2.25
Reef fish (Assorted)	1,929	3,857	2.00
Rudderfish	64	128	2.00

Table IIb.1.1 (cont.)

Species	Pounds	Value	\$/lb
Rabbitfish	68	137	2.00
Lined surgeon	40,673	80,628	1.98
Striped bristletooth	13,625	27,173	1.99
Yellowfin surgeonfish	921	1,841	2.00
Unicornfishes (misc)	14,381	28,567	1.99
Orangespine unicornfish	1,167	2,042	1.75
Squirrelfish	4,360	8,792	2.02
Saber squirrelfish	49	117	2.38
Bigeye squirrelfish	15	30	2.00
Parrotfishes	24,247	48,108	1.98
Goatfish	13	22	1.75
Sweepers	53	93	1.75
Inshore groupers	6,516	13,051	2.00
Porcupinefish	377	471	1.25
Red snapper, mu	275	550	2.00
Troll fish	478	478	1.00
Dolphin (mahimahi)	33,371	66,741	2.00
Swordfish	632	1,265	2.00
Blue marlin	35,630	32,067	0.90
Black marlin	1,788	1,629	0.91
Sailfish	6,242	6,242	1.00
Rainbow runner	506	965	1.91
Wahoo	16,322	12,242	0.75
Tunas	374	561	1.50
Skipjack tuna	32,840	32,003	0.97
Dogtooth tuna	348	604	1.74
Albacore	629,496	679,855	1.08
Yellowfin tuna	73,970	57,000	0.77
Bigeye tuna	7,792	10,909	1.40
Kawakawa	58	58	1.00
Moonfish (Opah)	2,358	2,358	1.00
Crabs	446	1,575	3.53
Spiny lobster	6,297	19,692	3.13
Octopus	257	257	1.00
** TOTAL **	998,784	1,215,793	1.22

Table IIb.1.2

American Samoa January 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	75	156	2.08
Black jack	40	60	1.50
Giant trevally	10	15	1.50
Small barracuda	145	283	1.95
Groupers (misc)	505	1,009	2.00
Peacock grouper	5	10	2.00
Tomato grouper	22	33	1.50
Lunartail grouper	153	323	2.10
Blue lined snapper	36	73	2.05
Gray jobfish	129	274	2.13
Yellow opakapaka	33	66	2.03
Gindai (flower snap)	102	303	2.98
Onaga (longtail snapper)	177	490	2.76
Ehu (squirrelfish snap.)	86	188	2.20
Kusakar's snapper	15	29	2.00
Emperors (misc)	26	51	1.96
Redgill emperor	52	117	2.25
Squirrelfish	10	20	2.04
Inshore groupers	26	52	2.00
Mahimahi (dolphin)	729	1,457	2.00
Blue marlin	3,421	3,079	0.90
Wahoo	604	453	0.75
Skipjack tuna	2,104	2,003	0.95
Albacore	19,134	20,665	1.08
Yellowfin tuna	5,556	4,563	0.82
Kawakawa	20	20	1.00
** SUBTOTAL **	33,213	35,793	1.08

Table IIb.1.3

American Samoa February 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	271	498	1.84
Black jack	185	352	1.90
Whitemouth trevally	13	25	1.90
Barracudas	333	653	1.96
Small barracuda	128	260	2.03
Flagtail grouper	38	76	2.00
Tomato grouper	30	45	1.50
Lunartail grouper	64	135	2.10
Blue lined snapper	1,038	1,960	1.89
Onespot snapper	10	25	2.50
Humpback snapper	177	347	1.96
Gray jobfish	263	478	1.82
Yellow opakapaka	109	205	1.88
Emperors (misc)	699	1,320	1.89
Redgill emperor	390	877	2.25
Squirrelfish	115	222	1.94
Saber squirrelfish	6	15	2.50
Inshore groupers	61	126	2.05
Porcupinefish	104	129	1.25
Red snapper, mu	230	460	2.00
Mahimahi (dolphin)	441	882	2.00
Blue marlin	2,888	2,599	0.90
Rainbow runner	326	619	1.90
Wahoo	1,005	754	0.75
Tunas	76	115	1.50
Skipjack tuna	6,671	6,671	1.00
Dogtooth tuna	109	177	1.62
Albacore	21,356	23,065	1.08
Yellowfin tuna	8,918	6,733	0.76
Bigeye tuna	749	1,049	1.40
** SUBTOTAL **	46,805	50,872	1.09

Table IIb.1.4

American Samoa March 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	37	110	3.00
Black jack	323	810	2.51
Bigeye trevally	17	34	2.00
Barracudas	156	307	1.96
Small barracuda	239	359	1.50
Lunartail grouper	192	433	2.25
Blue lined snapper	983	2,213	2.25
Onespot snapper	17	34	2.00
Twinspot/red snapper	60	135	2.25
Humpback snapper	340	796	2.34
Gray jobfish	587	1,509	2.57
Yellow opakapaka	133	300	2.25
Hawaiian opakapaka	26	79	3.00
Gindai (flower snap)	24	71	3.00
Lehi (silverjaw)	367	762	2.07
Onaga (longtail snapper)	42	125	3.00
Ehu (squirrelfish snap.)	25	76	3.00
Stone's snapper	17	33	2.00
Emperors (misc)	172	338	1.96
Longnose emperor	96	191	2.00
Redgill emperor	515	1,158	2.25
Squirrelfish	151	340	2.25
Inshore groupers	106	213	2.00
Red snapper, mu	45	90	2.00
Mahimahi (dolphin)	985	1,971	2.00
Blue marlin	1,375	1,237	0.90
Wahoo	246	185	0.75
Skipjack tuna	3,924	3,649	0.93
Albacore	12,802	13,826	1.08
Yellowfin tuna	7,036	5,277	0.75
Kawakawa	4	4	1.00
** SUBTOTAL **	31,042	36,663	1.18

Table IIb.1.5

American Samoa April 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	467	905	1.94
Jacks (misc)	314	620	1.97
Black jack	444	914	2.06
Bigeye trevally	40	60	1.50
Barracudas	574	1,125	1.96
Small barracuda	194	372	1.92
Tomato grouper	22	46	2.11
Lunartail grouper	211	437	2.07
Blue lined snapper	592	1,187	2.00
Onespot snapper	37	74	2.00
Twinspot/red snapper	45	101	2.25
Humpback snapper	265	531	2.00
Gray jobfish	652	1,273	1.95
Yellow opakapaka	725	1,450	2.00
Gindai (flower snap)	33	83	2.50
Lehi (silverjaw)	296	605	2.05
Onaga (longtail snapper)	632	1,292	2.04
Ehu (squirrelfish snap.)	231	509	2.20
Stone's snapper	55	106	1.92
Emperors (misc)	1,216	2,432	2.00
Longnose emperor	35	71	2.00
Orangespot emperor	65	129	2.00
Reef fish (Assorted)	1,839	3,678	2.00
Lined surgeon	3,766	7,388	1.96
Striped bristletooth	2,112	4,207	1.99
Unicornfishes (misc)	1,426	2,841	1.99
Squirrelfish	1,383	2,764	2.00
Saber squirrelfish	12	28	2.36
Bigeye squirrelfish	6	12	2.00
Parrotfishes	1,690	3,338	1.98
Inshore groupers	209	421	2.01
Mahimahi (dolphin)	704	1,408	2.00
Blue marlin	6,507	5,857	0.90
Sailfish	235	235	1.00
Rainbow runner	59	113	1.90
Wahoo	616	462	0.75
Tunas	111	167	1.50
Skipjack tuna	5,893	5,527	0.94
Dogtooth tuna	81	107	1.33
Albacore	8,230	8,888	1.08
Yellowfin tuna	12,676	9,585	0.76
Bigeye tuna	474	664	1.40
Spiny lobster	561	2,142	3.82
** SUBTOTAL **	55,734	74,151	1.33

Table IIb.1.6

American Samoa May 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	120	249	2.08
Black jack	50	137	2.74
Barracudas	245	442	1.81
Small barracuda	467	847	1.82
Tomato grouper	14	39	2.80
Lunartail grouper	39	97	2.51
Blue lined snapper	186	381	2.05
Humpback snapper	20	44	2.16
Gray jobfish	54	133	2.47
Yellow opakapaka	139	283	2.03
Gindai (flower snap)	19	57	3.00
Lehi (silverjaw)	114	279	2.44
Onaga (longtail snapper)	140	376	2.68
Ehu (squirrelfish snap.)	101	265	2.63
Stone's snapper	27	41	1.50
Emperors (misc)	185	362	1.96
Longnose emperor	41	82	2.00
Lined surgeon	338	663	1.96
Striped bristletooth	277	552	1.99
Unicornfishes (misc)	583	1,155	1.98
Squirrelfish	72	146	2.04
Parrotfishes	400	787	1.97
Inshore groupers	46	92	2.00
Mahimahi (dolphin)	1,260	2,519	2.00
Blue marlin	572	515	0.90
Sailfish	71	71	1.00
Wahoo	332	249	0.75
Skipjack tuna	3,935	3,761	0.96
Dogtooth tuna	20	39	1.96
Albacore	12,662	13,674	1.08
Yellowfin tuna	8,262	6,269	0.76
Bigeye tuna	393	550	1.40
Spiny lobster	90	264	2.92
** SUBTOTAL **	31,274	35,422	1.13

Table IIb.1.7

American Samoa June 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	4	6	1.50
Jacks (misc)	4	8	2.00
Black jack	29	57	1.97
Bigeye trevally	20	45	2.25
Barracudas	426	835	1.96
Small barracuda	311	592	1.90
Groupers (misc)	3	6	2.00
Tomato grouper	67	149	2.22
Blacktip grouper	35	79	2.25
Lunartail grouper	31	66	2.13
Blue lined snapper	96	215	2.23
Blacktail snapper	5	10	2.00
Humpback snapper	15	34	2.25
Gray jobfish	36	77	2.13
Gindai (flower snap)	10	21	2.10
Lehi (silverjaw)	8	12	1.50
Onaga (longtail snapper)	54	113	2.08
Ehu (squirrelfish snap.)	47	99	2.11
Stone's snapper	8	12	1.50
Emperors (misc)	45	101	2.25
Lined surgeon	1,276	2,501	1.96
Striped bristletooth	1,352	2,690	1.99
Unicornfishes (misc)	5,555	10,998	1.98
Squirrelfish	230	469	2.04
Bigeye squirrelfish	4	8	2.00
Parrotfishes	4,114	8,105	1.97
Inshore groupers	684	1,372	2.01
Mahimahi (dolphin)	971	1,943	2.00
Blue marlin	2,099	1,889	0.90
Sailfish	552	552	1.00
Rainbow runner	10	23	2.25
Wahoo	9	7	0.75
Skipjack tuna	1,620	1,696	1.05
Dogtooth tuna	14	28	2.00
Albacore	24,160	26,092	1.08
Yellowfin tuna	3,763	3,031	0.81
Bigeye tuna	759	1,062	1.40
Moonfish (Opah)	260	260	1.00
Spiny lobster	837	2,445	2.92
** SUBTOTAL **	49,522	67,704	1.37

Table IIb.1.8

American Samoa July 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	92	184	1.99
Bigeye scad	408	815	2.00
Black jack	96	238	2.47
Bigeye trevally	8	16	2.00
Barracudas	239	469	1.96
Small barracuda	758	1,223	1.61
Bottomfish (Assorted)	104	209	2.00
Groupers (misc)	11	26	2.32
Tomato grouper	19	48	2.50
Spotted grouper	4	8	2.00
Lunartail grouper	272	586	2.16
Blue lined snapper	77	163	2.11
Onespot snapper	4	10	2.50
Twinspot/red snapper	73	165	2.25
Humpback snapper	555	1,199	2.16
Gray jobfish	214	492	2.30
Yellow opakapaka	26	53	2.03
Gindai (flower snap)	35	82	2.33
Lehi (silverjaw)	115	252	2.19
Onaga (longtail snapper)	371	981	2.65
Ehu (squirrelfish snap.)	225	531	2.36
Emperors (misc)	89	174	1.96
Redgill emperor	19	43	2.25
Lined surgeon	5,970	11,700	1.96
Striped bristletooth	1,642	3,283	2.00
Yellowfin surgeonfish	340	680	2.00
Unicornfishes (misc)	2,576	5,101	1.98
Squirrelfish	904	1,813	2.01
Saber squirrelfish	11	26	2.36
Parrotfishes	2,555	5,109	2.00
Inshore groupers	1,010	2,019	2.00
Mahimahi (dolphin)	1,756	3,511	2.00
Swordfish	332	665	2.00
Blue marlin	4,975	4,478	0.90
Sailfish	1,359	1,359	1.00
Rainbow runner	59	111	1.90
Wahoo	1,123	842	0.75
Skipjack tuna	846	850	1.00
Dogtooth tuna	30	71	2.35
Albacore	51,990	56,149	1.08
Yellowfin tuna	8,943	6,803	0.76
Bigeye tuna	1,223	1,712	1.40
Moonfish (Opah)	674	674	1.00
Spiny lobster	500	1,000	2.00
** SUBTOTAL **	92,631	115,922	1.25

Table IIb.1.9

American Samoa August 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	335	654	1.95
Jacks (misc)	99	205	2.08
Black jack	227	503	2.22
Bigeye trevally	145	291	2.00
Barracudas	53	103	1.96
Small barracuda	388	719	1.85
Mulletts	17	34	2.00
Tomato grouper	17	39	2.27
Lunartail grouper	59	134	2.28
Blue lined snapper	107	220	2.05
Humpback snapper	123	272	2.22
Gray jobfish	70	163	2.32
Gindai (flower snap)	37	101	2.73
Lehi (silverjaw)	504	1,038	2.06
Onaga (longtail snapper)	454	1,292	2.84
Ehu (squirrelfish snap.)	271	628	2.31
Emperors (misc)	36	70	1.96
Longnose emperor	23	46	2.00
Reef fish (Assorted)	90	180	2.00
Rudderfish	64	128	2.00
Lined surgeon	4,067	8,135	2.00
Striped bristletooth	1,856	3,693	1.99
Unicornfishes (misc)	1,284	2,569	2.00
Squirrelfish	607	1,215	2.00
Parrotfishes	1,964	3,928	2.00
Inshore groupers	902	1,805	2.00
Mahimahi (dolphin)	2,931	5,863	2.00
Blue marlin	1,539	1,386	0.90
Black marlin	1,588	1,429	0.90
Sailfish	616	616	1.00
Wahoo	1,025	769	0.75
Tunas	172	258	1.50
Skipjack tuna	686	733	1.07
Albacore	45,219	48,836	1.08
Yellowfin tuna	3,398	2,646	0.78
Moonfish (Opah)	692	692	1.00
Crabs	105	209	2.00
Spiny lobster	789	1,578	2.00
Octopus	52	52	1.00
** SUBTOTAL **	72,614	93,229	1.28

Table IIb.1.10

American Samoa September 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	272	543	2.00
Jacks (misc)	38	76	2.00
Black jack	217	451	2.08
Bigeye trevally	59	117	2.00
Amberjack	60	120	2.00
Barracudas	206	369	1.78
Large barracuda	35	53	1.50
Small barracuda	91	137	1.50
Rays	32	32	1.00
Groupers (misc)	20	40	2.00
Lunartail grouper	83	174	2.10
Blue lined snapper	316	648	2.05
Onespot snapper	11	21	2.00
Humpback snapper	221	478	2.16
Gray jobfish	88	195	2.21
Yellow opakapaka	22	44	2.03
Gindai (flower snap)	102	307	3.00
Lehi (silverjaw)	74	149	2.02
Onaga (longtail snapper)	92	259	2.82
Emperors (misc)	249	488	1.96
Longnose emperor	42	84	2.00
Orangespot emperor	72	145	2.00
Redgill emperor	72	163	2.25
Rabbitfish	68	137	2.00
Lined surgeon	7,480	14,960	2.00
Striped bristletooth	2,454	4,908	2.00
Yellowfin surgeonfish	114	228	2.00
Unicornfishes (misc)	2,489	4,978	2.00
Squirrelfish	531	1,062	2.00
Parrotfishes	4,514	9,028	2.00
Goatfish	13	22	1.75
Sweepers	53	93	1.75
Inshore groupers	724	1,447	2.00
Porcupinefish	274	342	1.25
Mahimahi (dolphin)	4,377	8,754	2.00
Blue marlin	4,684	4,216	0.90
Sailfish	1,531	1,531	1.00
Rainbow runner	52	99	1.90
Wahoo	1,343	1,007	0.75
Tunas	14	21	1.50
Skipjack tuna	2,360	2,277	0.96
Albacore	73,917	79,830	1.08
Yellowfin tuna	1,521	1,194	0.79
Bigeye tuna	531	744	1.40
Moonfish (Opah)	137	137	1.00

Table IIb.1.10 (Cont.)

Species	Pounds	Value	\$/lb
Crabs	342	1,366	4.00
Spiny lobster	1,682	6,728	4.00
Octopus	205	205	1.00
** SUBTOTAL **	113,884	150,407	1.32

Table IIb.1.11

American Samoa October 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	40	40	1.00
Jacks (misc)	22	45	2.02
Black jack	95	236	2.49
Trevally (C.caeruleop.)	8	15	2.00
Barracudas	332	689	2.08
Large barracuda	410	615	1.50
Small barracuda	43	64	1.50
Sharks	3,450	473	0.14
Groupers (misc)	73	146	2.00
Tomato grouper	19	51	2.67
Striped grouper	6	15	2.50
Lunartail grouper	67	152	2.27
Blue lined snapper	192	394	2.05
Onespot snapper	14	30	2.22
Humpback snapper	12	26	2.12
Gray jobfish	79	216	2.74
Yellow opakapaka	3	5	1.50
Hawaiian opakapaka	12	36	3.00
Gindai (flower snap)	30	81	2.69
Lehi (silverjaw)	159	372	2.34
Onaga (longtail snapper)	128	310	2.42
Ehu (squirrelfish snap.)	185	436	2.36
Emperors (misc)	115	234	2.03
Redgill emperor	186	419	2.25
Lined surgeon	5,602	10,979	1.96
Striped bristletooth	1,657	3,298	1.99
Yellowfin surgeonfish	467	934	2.00
Unicornfishes (misc)	467	924	1.98
Orangespine unicornfish	1,167	2,042	1.75
Squirrelfish	83	175	2.11
Saber squirrelfish	6	15	2.50
Bigeye squirrelfish	2	4	2.00
Parrotfishes	4,365	8,598	1.97
Inshore groupers	371	746	2.01
Troll fish	120	120	1.00
Mahimahi (dolphin)	5,259	10,519	2.00
Blue marlin	2,543	2,289	0.90
Sailfish	336	336	1.00
Wahoo	2,954	2,215	0.75
Skipjack tuna	2,686	2,466	0.92
Dogtooth tuna	41	103	2.50
Albacore	89,370	96,519	1.08
Yellowfin tuna	2,314	1,895	0.82
Bigeye tuna	1,490	2,087	1.40
Moonfish (Opah)	494	494	1.00
Spiny lobster	759	2,215	2.92
** SUBTOTAL **	128,229	154,071	1.20

Table IIb.1.12

American Samoa November 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Jacks (misc)	384	805	2.10
Black jack	103	206	2.00
Barracudas	1,830	3,451	1.89
Small barracuda	14	21	1.50
Sharks	1,200	165	0.14
Tomato grouper	19	40	2.08
Striped grouper	2	5	2.50
Blue lined snapper	74	172	2.31
Onespot snapper	3	8	2.50
Twinspot/red snapper	23	51	2.25
Gray jobfish	59	127	2.16
Hawaiian opakapaka	20	60	3.00
Gindai (flower snap)	66	145	2.19
Lehi (silverjaw)	103	239	2.32
Onaga (longtail snapper)	99	206	2.08
Ehu (squirrelfish snap.)	243	505	2.08
Emperors (misc)	24	47	1.96
Lined surgeon	1,168	2,289	1.96
Striped bristletooth	860	1,712	1.99
Squirrelfish	268	553	2.06
Saber squirrelfish	9	23	2.50
Bigeye squirrelfish	3	6	2.00
Parrotfishes	2,602	5,126	1.97
Inshore groupers	1,978	3,961	2.00
Troll fish	179	179	1.00
Mahimahi (dolphin)	10,713	21,427	2.00
Swordfish	100	200	2.00
Blue marlin	2,758	2,483	0.90
Black marlin	200	200	1.00
Sailfish	701	701	1.00
Wahoo	2,883	2,163	0.75
Skipjack tuna	1,193	1,415	1.19
Dogtooth tuna	44	66	1.50
Albacore	146,885	158,636	1.08
Yellowfin tuna	1,688	1,467	0.87
Bigeye tuna	1,012	1,417	1.40
Kawakawa	29	29	1.00
Spiny lobster	922	2,692	2.92
** SUBTOTAL **	180,463	212,995	1.18

Table IIb.1.13

American Samoa December 1997 Estimated Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad	157	314	2.00
Jacks (misc)	5	10	2.00
Barracudas	383	713	1.86
Sharks	1,000	115	0.12
Flagtail grouper	6	12	2.00
Blue lined snapper	12	24	2.00
Lined surgeon	11,006	22,012	2.00
Striped bristletooth	1,415	2,830	2.00
Squirrelfish	6	12	2.00
Saber squirrelfish	5	10	2.00
Parrotfishes	2,044	4,088	2.00
Inshore groupers	398	796	2.00
Troll fish	179	179	1.00
Mahimahi (dolphin)	3,244	6,487	2.00
Swordfish	200	400	2.00
Blue marlin	2,268	2,041	0.90
Sailfish	841	841	1.00
Wahoo	4,181	3,136	0.75
Skipjack tuna	923	958	1.04
Dogtooth tuna	9	14	1.50
Albacore	123,772	133,674	1.08
Yellowfin tuna	9,896	7,539	0.76
Bigeye tuna	1,159	1,623	1.40
Kawakawa	6	6	1.00
Moonfish (Opah)	101	101	1.00
Spiny lobster	157	629	4.00
** SUBTOTAL **	163,373	188,563	1.15
** TOTAL **	998,784	1,215,793	1.22

Figure IIb.1.1

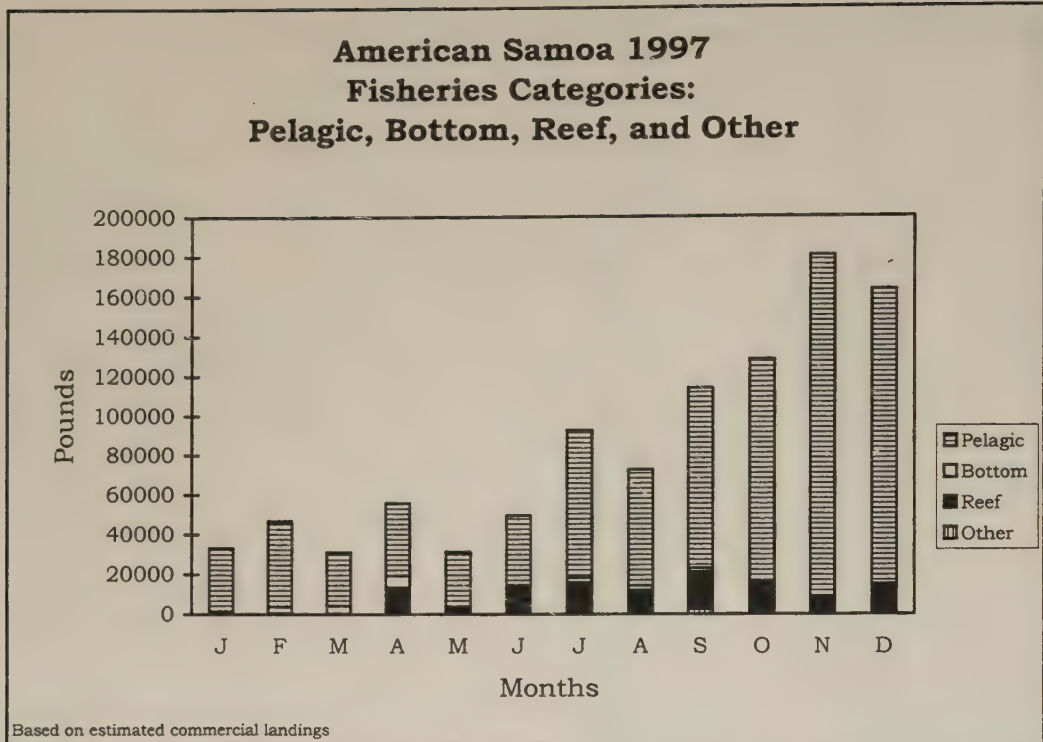


Figure IIb.1.2

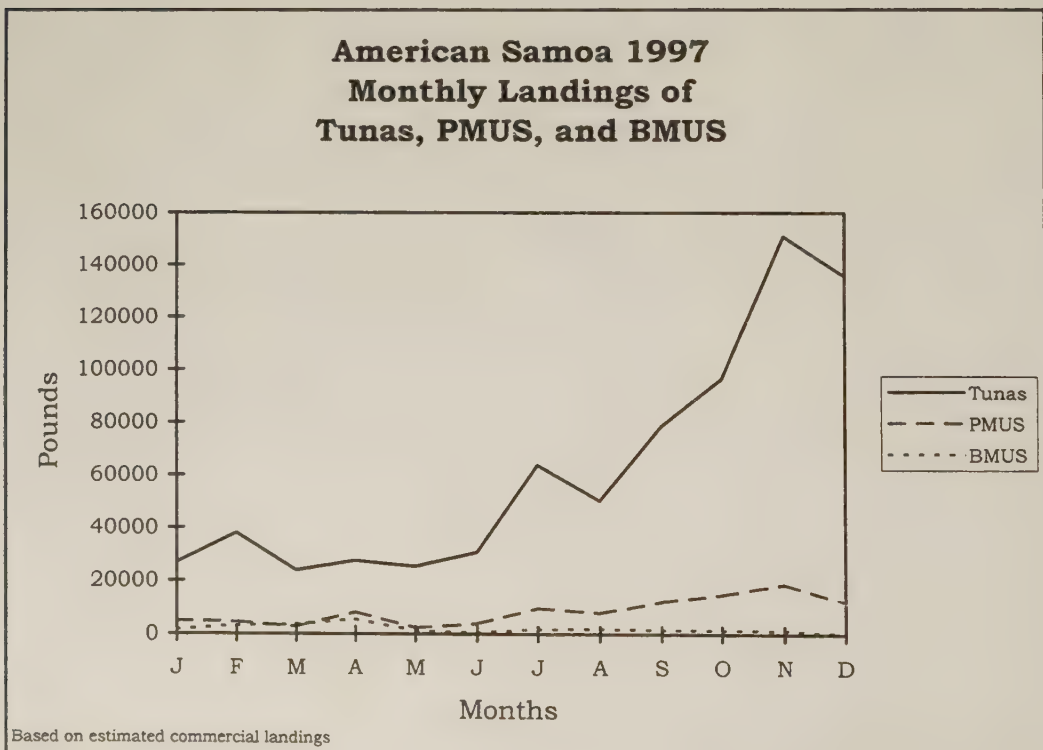


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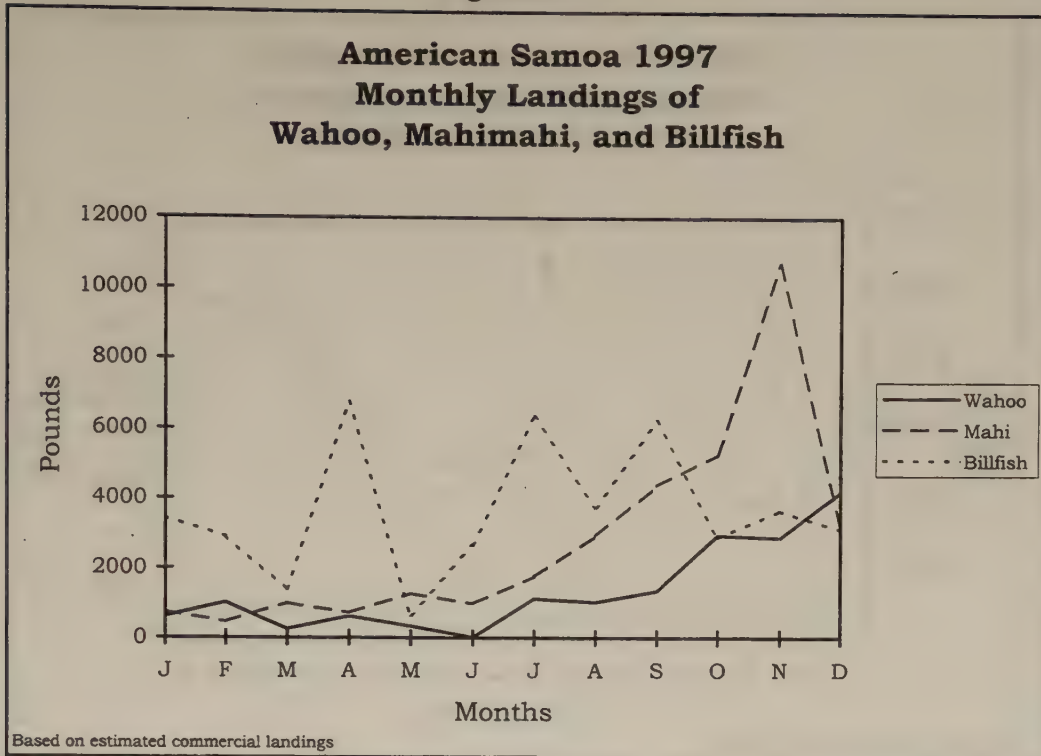


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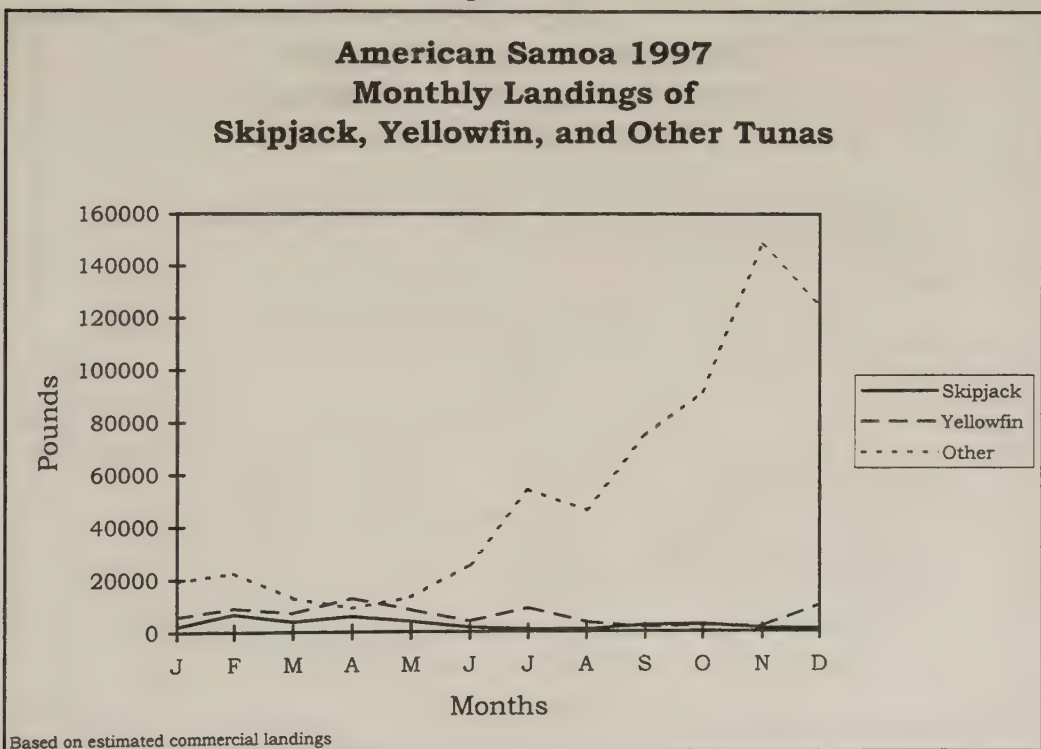


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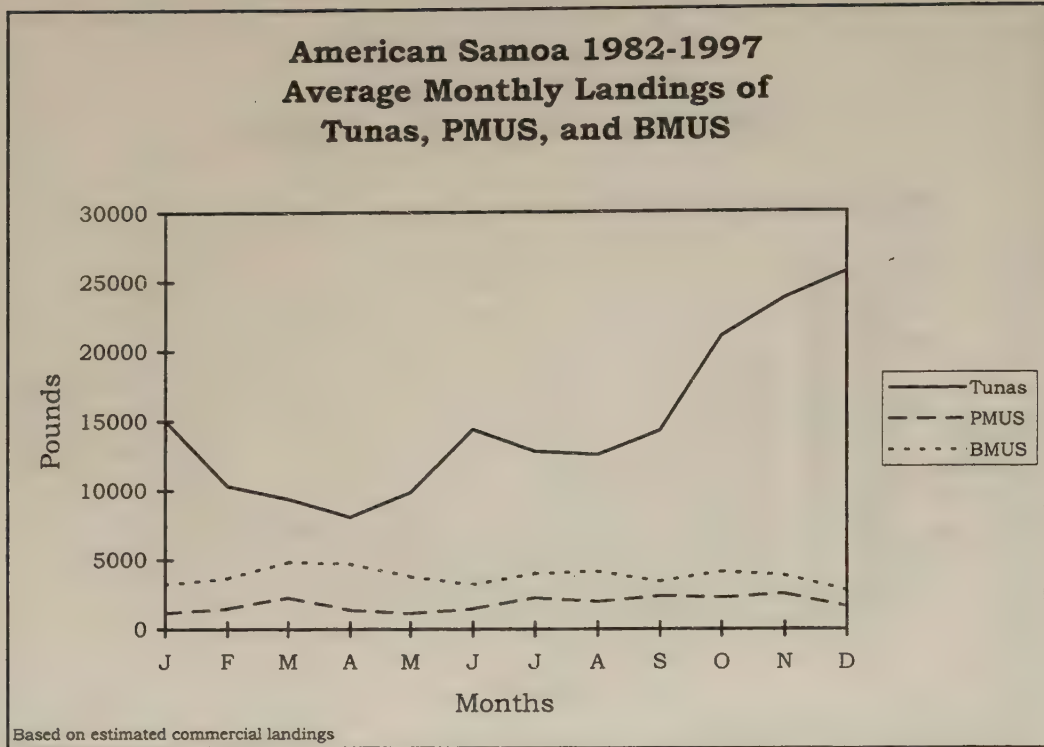


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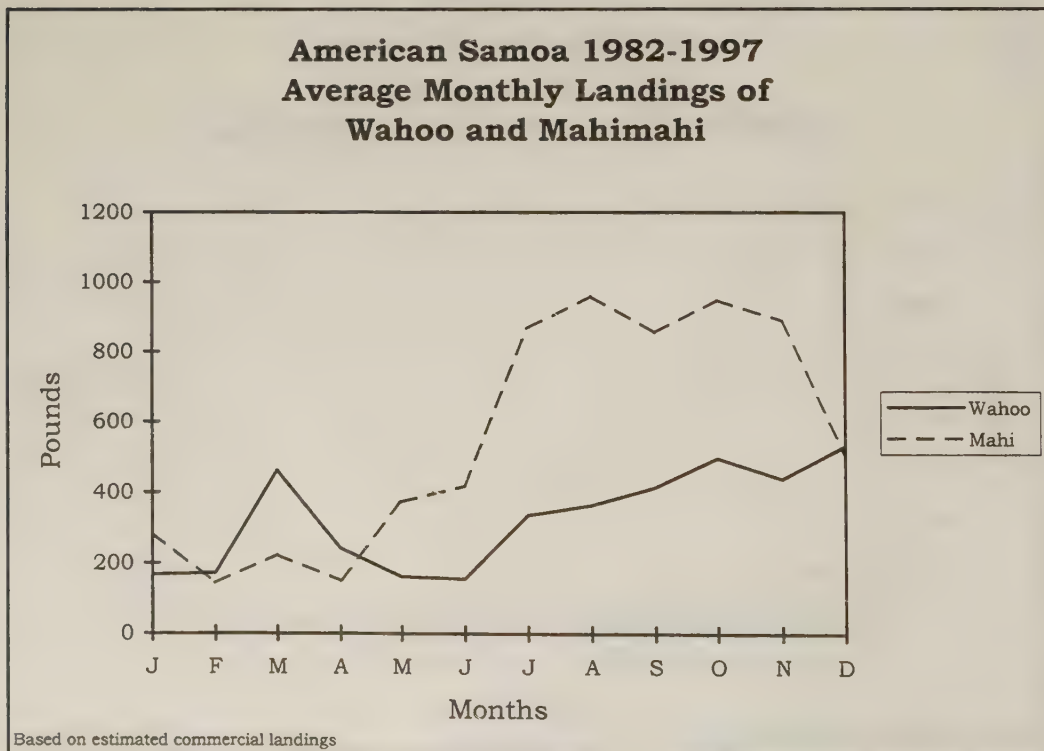


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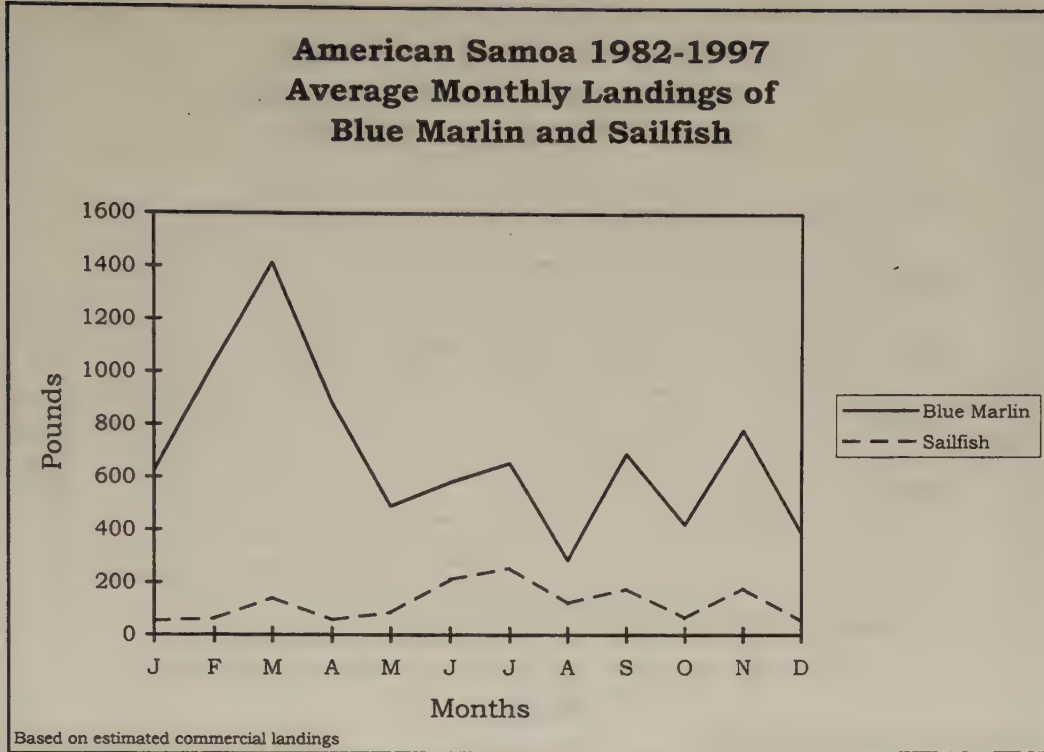


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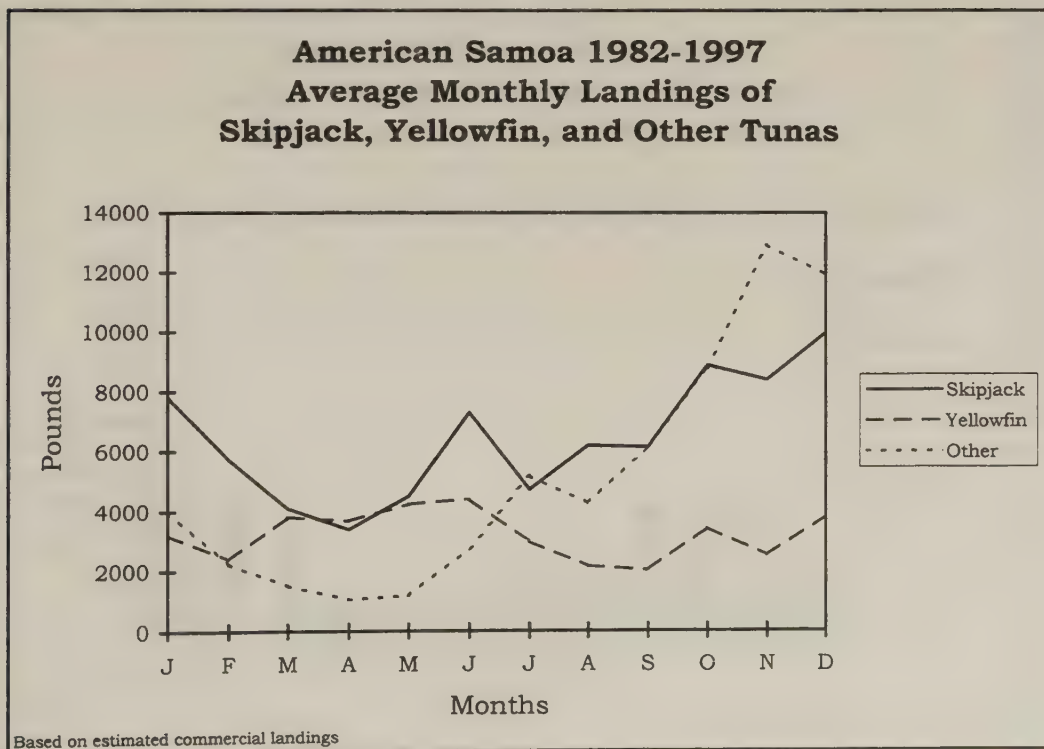


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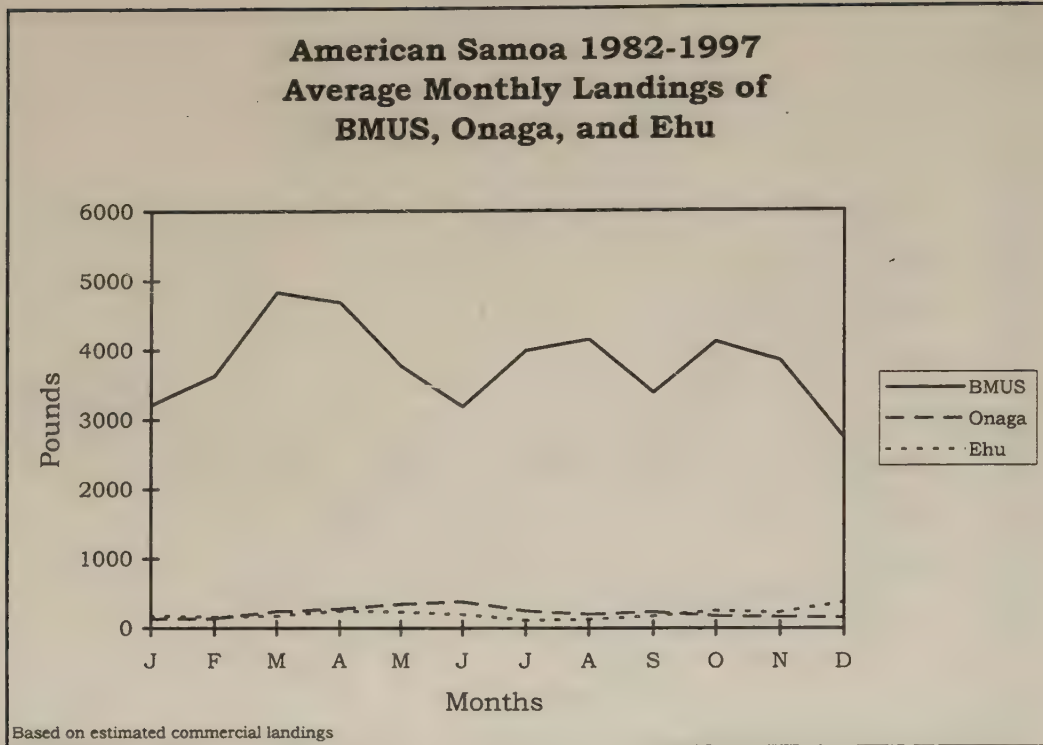


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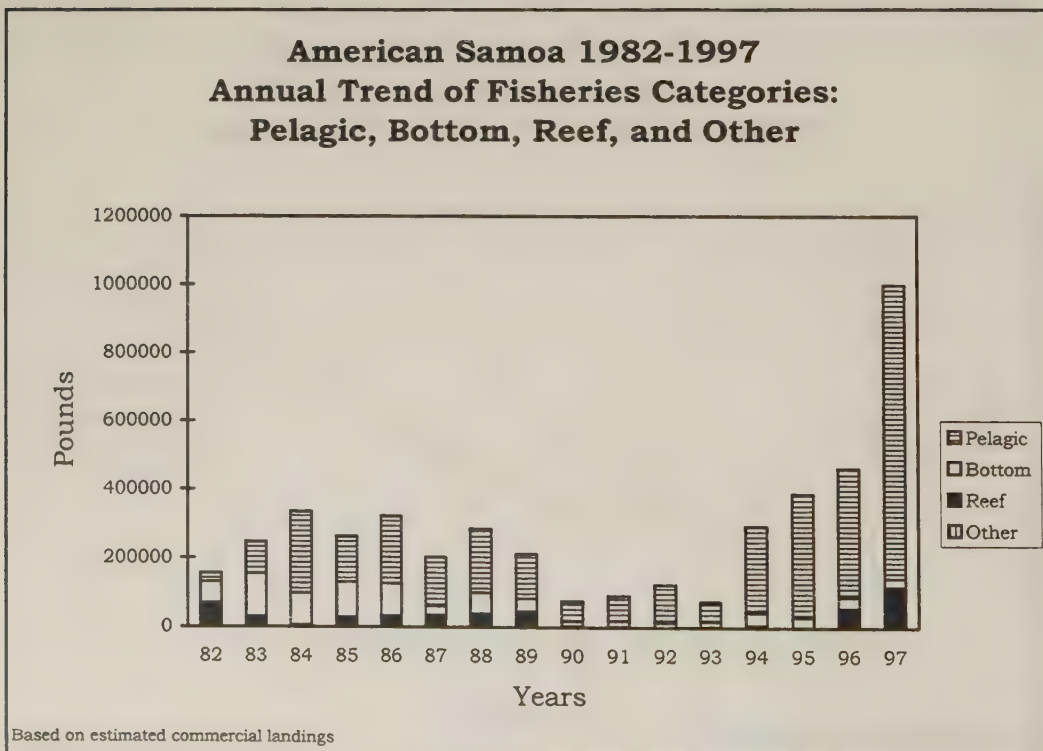


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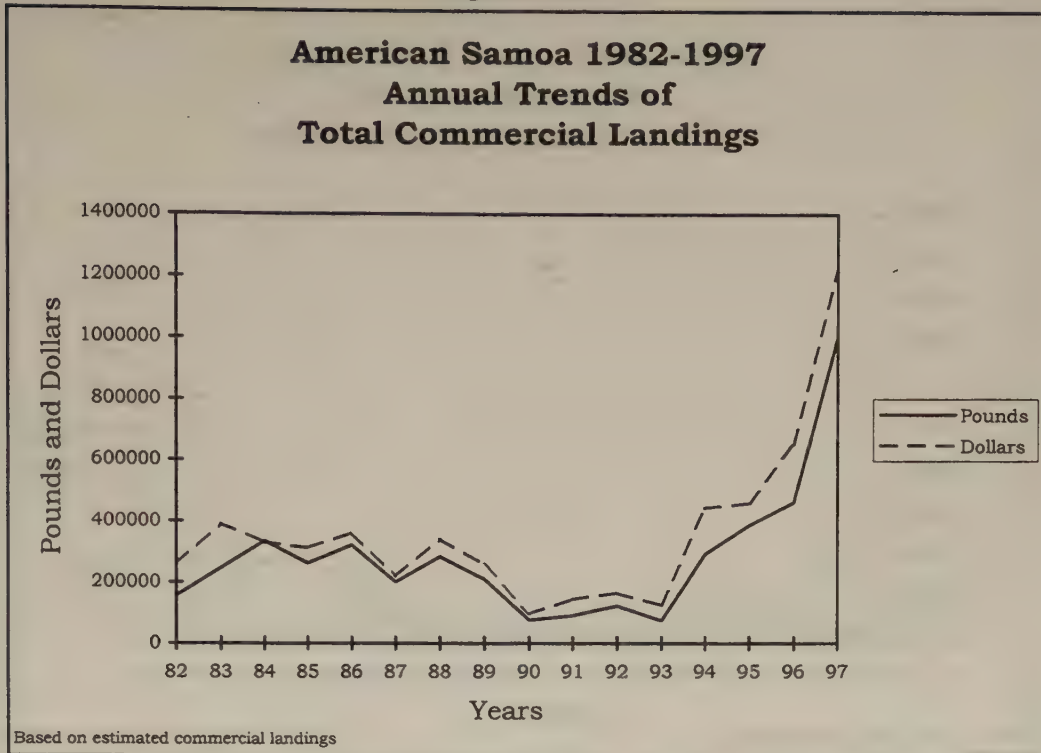


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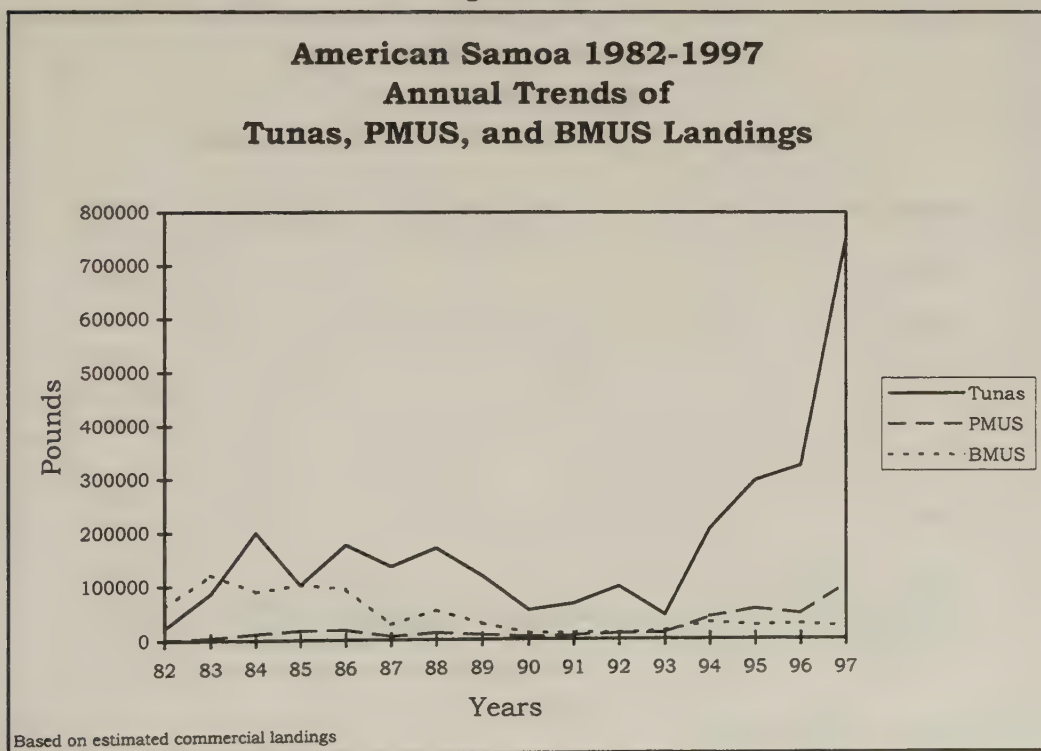


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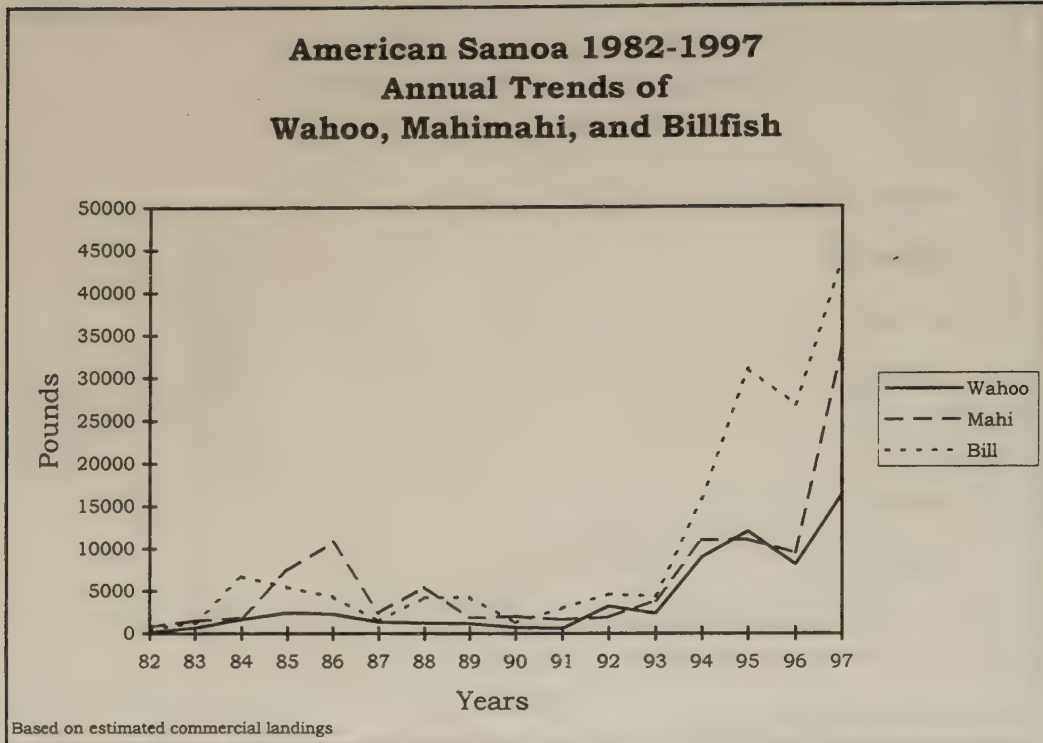


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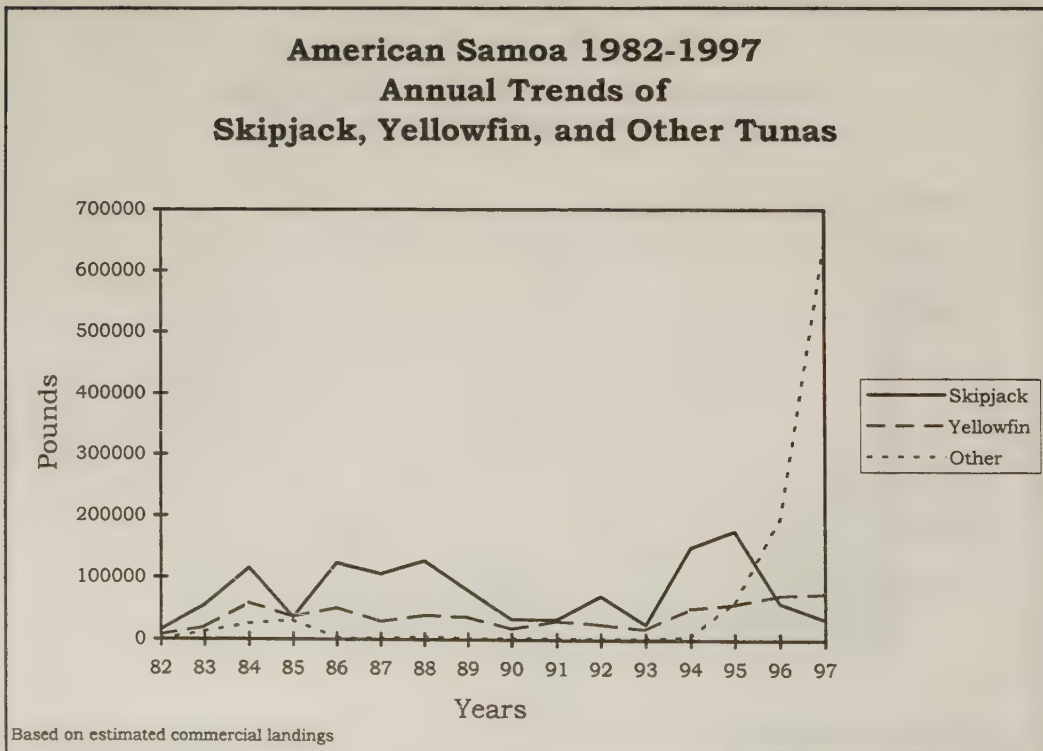


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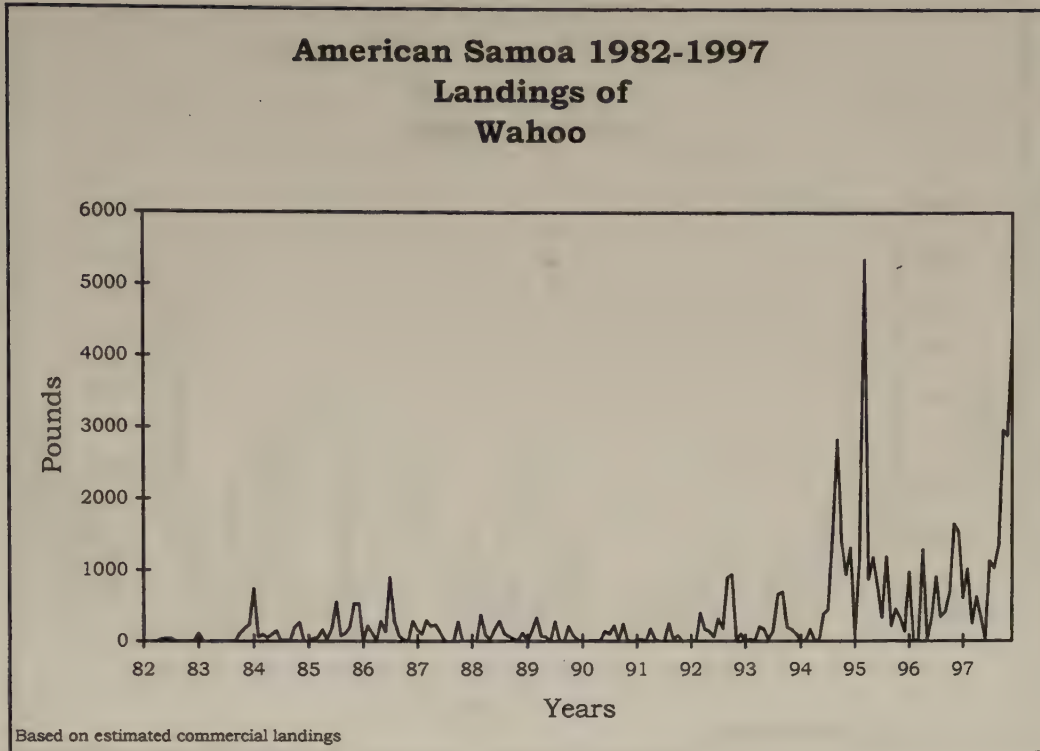


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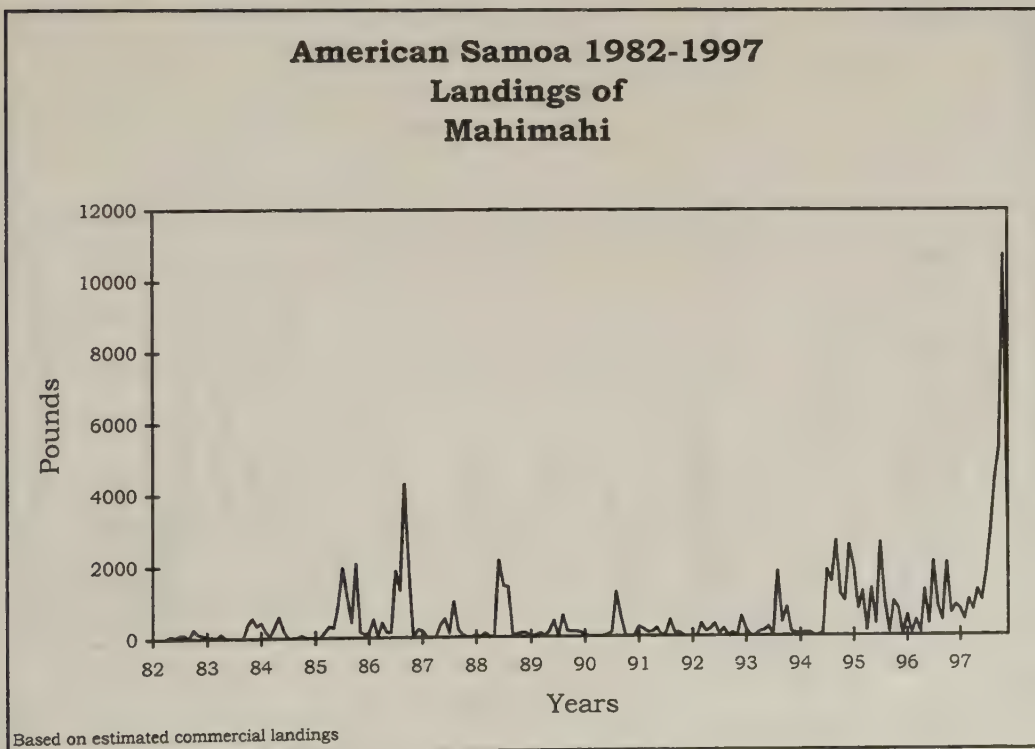


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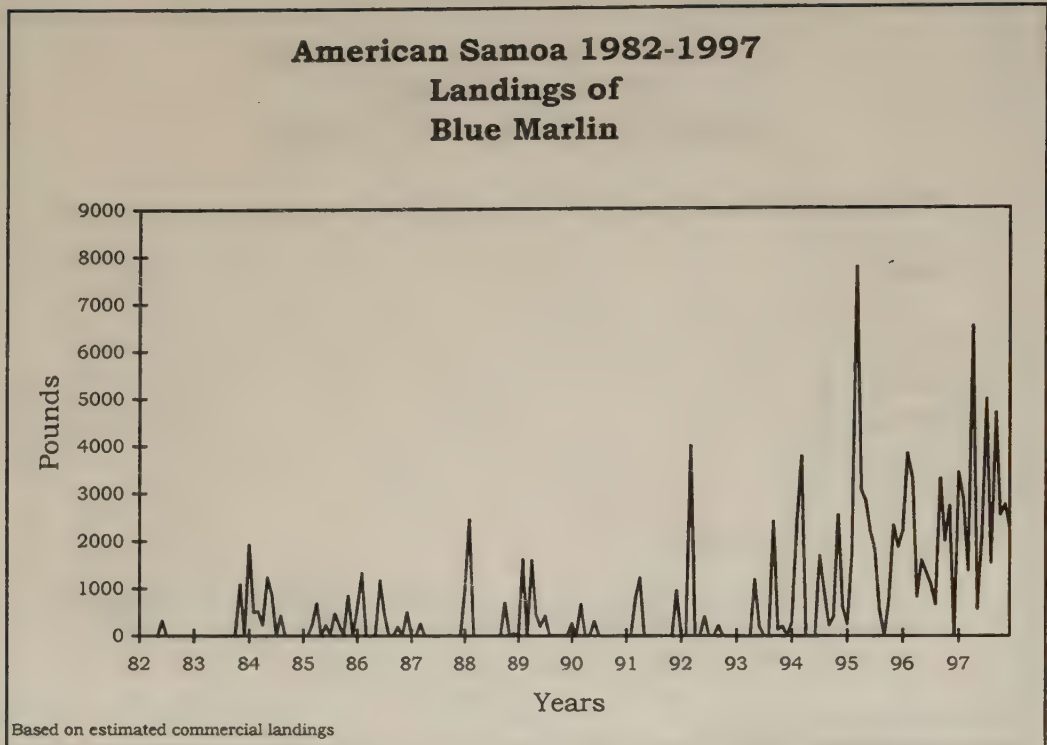


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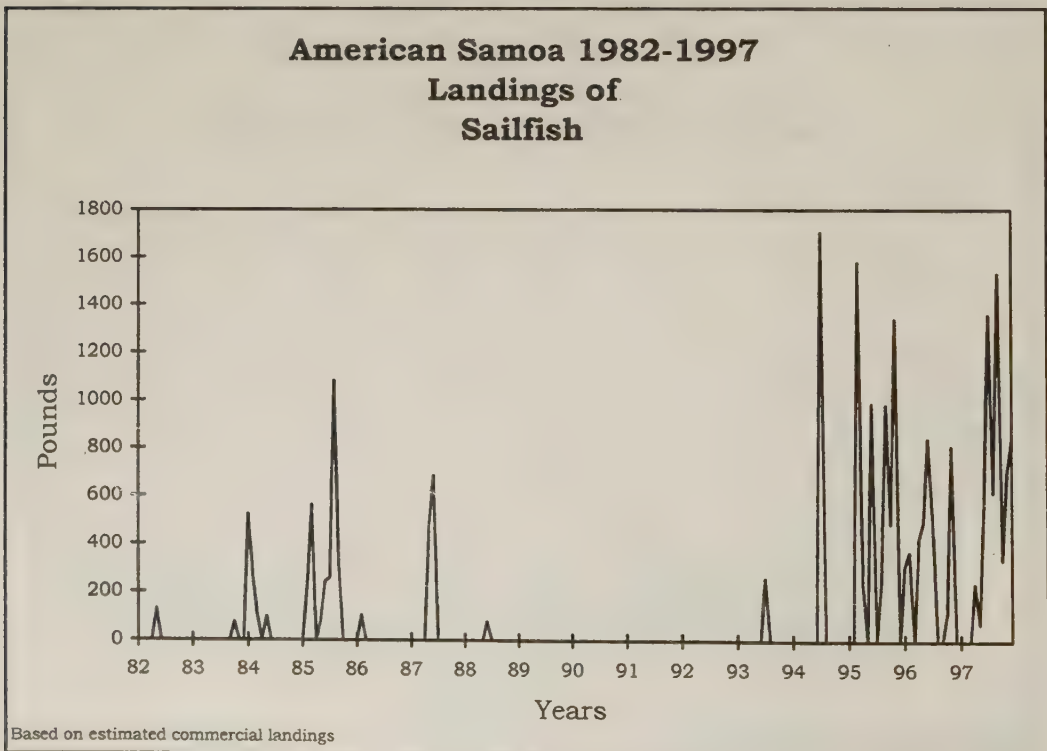


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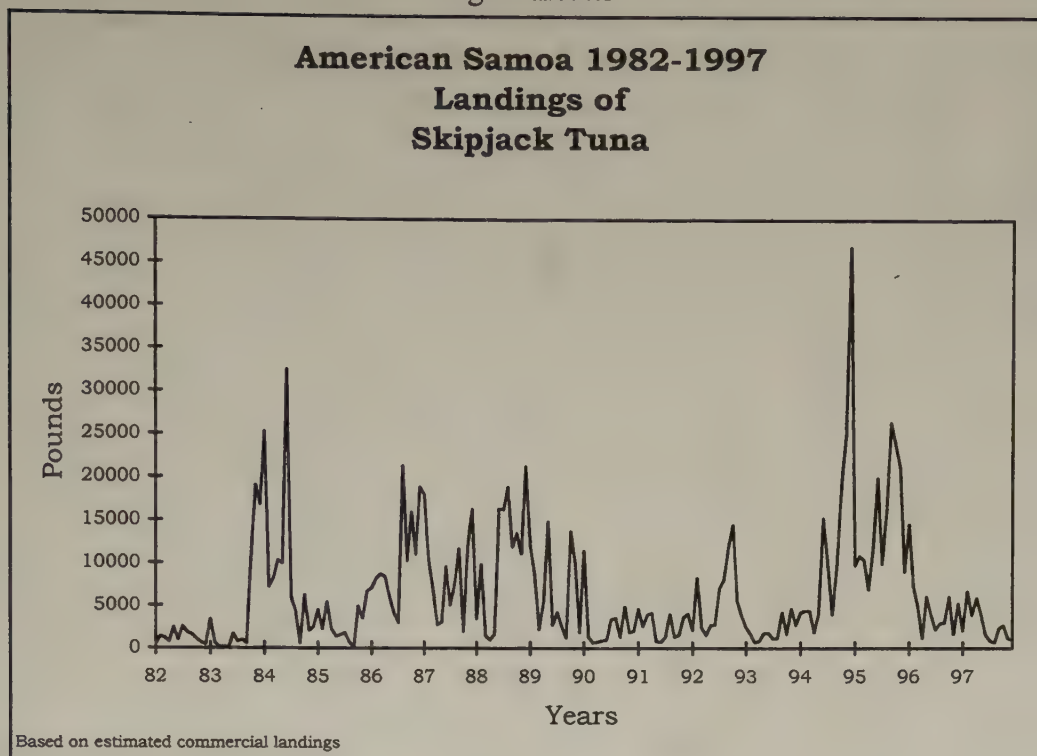


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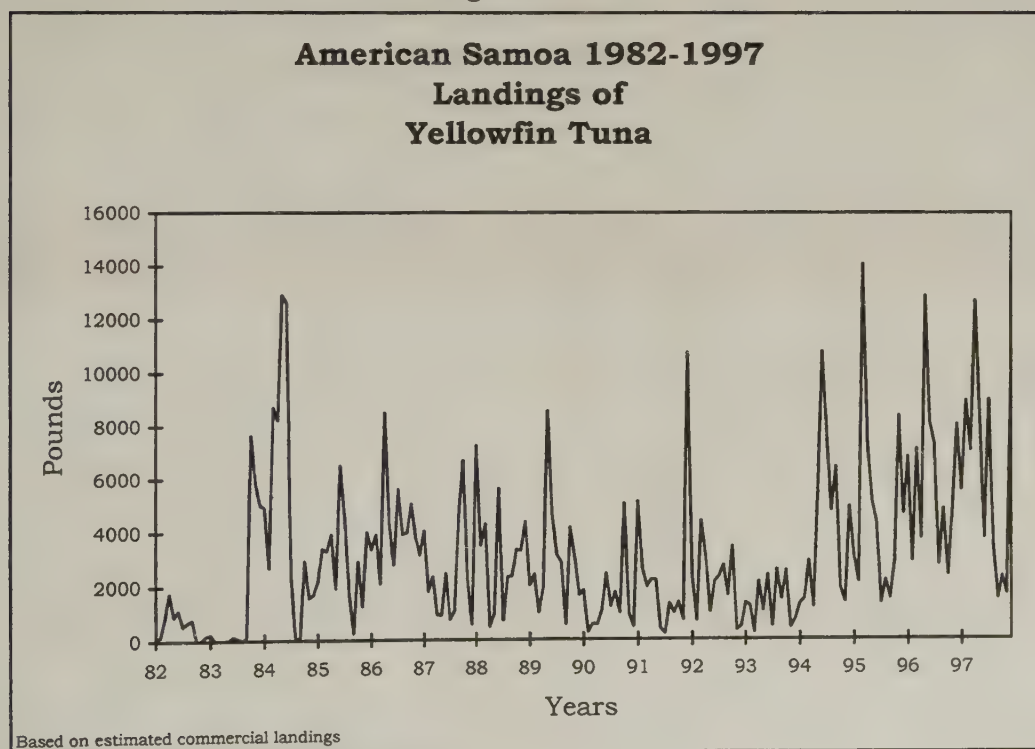


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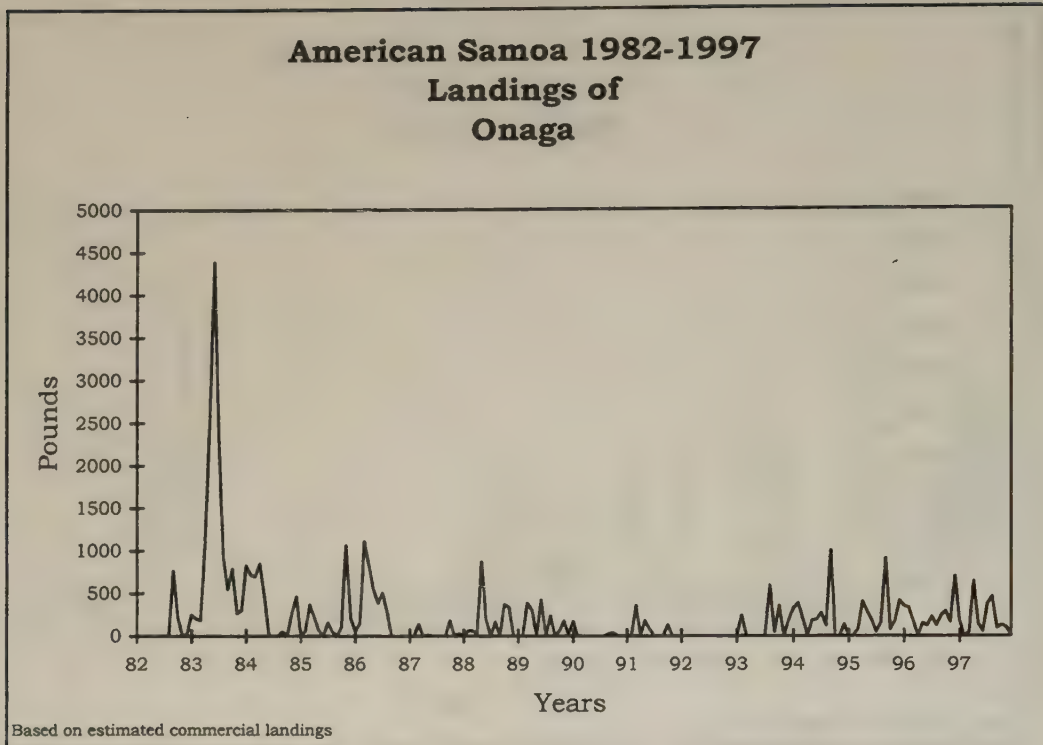
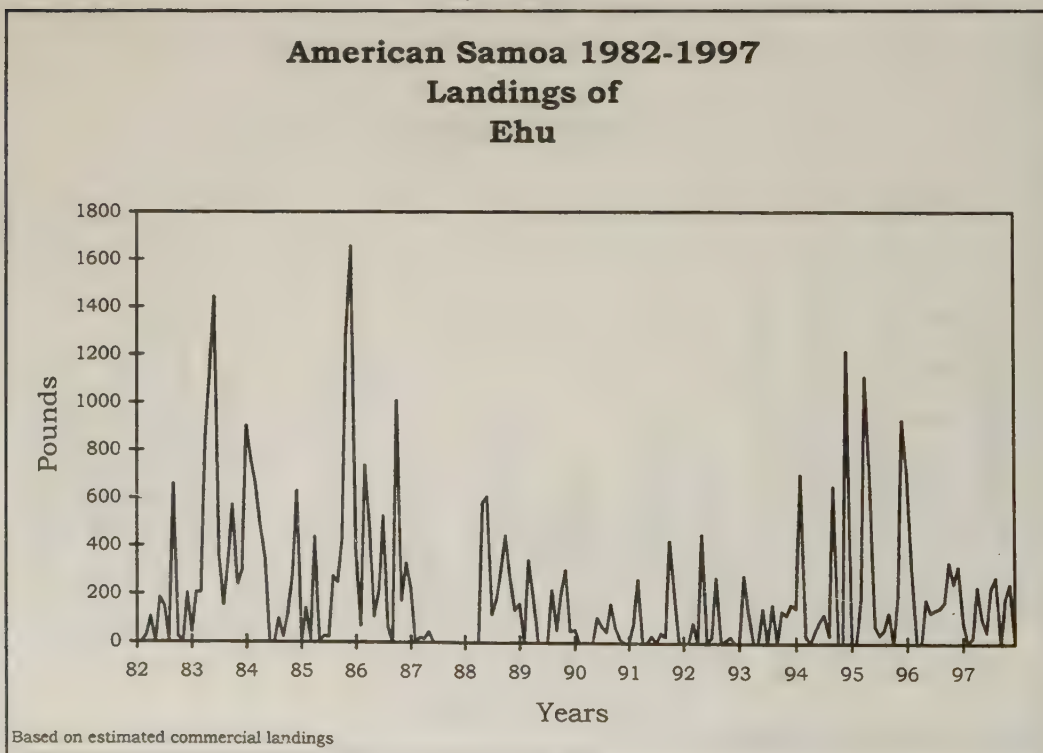


Figure IIb.4.8





COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

**Fishery Statistics
1997**

**COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
1997 FISHERY STATISTICS**

Compiled by
Division of Fish and Wildlife
and the
Western Pacific Fishery Information Network

July 1999

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS 1997 FISHERY STATISTICS

INTRODUCTION

The Commonwealth of the Northern Mariana Islands (CNMI) comprises a string of islands located at about long. 145° E and extending northward from about lat. 14 to 21° N. Virtually all of the 44,000 inhabitants of the CNMI live on the three main islands of Saipan, Rota, and Tinian, with the vast majority living on Saipan. The Division of Fish and Wildlife (DFW) has been collecting fishery statistics on the commercial fishing fleet of Saipan since the mid-1970's. In 1983, DFW also began collecting information on vessels transshipping tuna out of Tinian. Significant improvements to the data collecting and processing systems were made in 1982 when microcomputer hardware, software, and training were provided by the WPacFIN program.

The major domestic commercial fishery of the CNMI is a small boat, one-day troll fishery. Most of the boats are 12- to 24-foot outboard-powered, runabout-type vessels; however, a few larger boats are also used and the small charter fleet is also increasing. During 1997, 23 vessels were registered as "charter" for their primary use. In recent years, there has been a fairly rapid increase in the number of boats in the CNMI, and during 1997 nearly 50% of all registered boats participated to some extent in the commercial fisheries. Although trolling is by far the most common fishing method, many boats are also used for bottom fishing and reef fishing activities. Reef fish are an important component of the local diet and are a significant portion of the total commercial catch. Additionally, an increasing amount of reef fish is being imported from other Pacific islands to meet the local demand. In recent years, several larger boats have started fishing more intensively for bottom fish around the islands north of Saipan. The vast majority of the domestic catch is consumed locally, but there have been some exports of fish to Guam, Hawaii, and most recently Japan.

DATA COLLECTING SYSTEM

The principal method used by DFW to collect domestic commercial fisheries data is a dealer invoicing system, sometimes referred to as a "trip ticket" system. The DFW provides numbered two-part invoices to all purchasers of fresh fishery products, including hotels, restaurants, stores, fish markets, and roadside vendors. Dealers complete an invoice each time they purchase fish directly from fishermen. They keep one copy for their records and provide one copy to DFW. Some advantages of this method of data collection are that it is relatively inexpensive to implement and maintain, nearly complete coverage of the commercial fisheries is fairly easy to accomplish, and DFW can provide feedback to dealers and fishermen to ensure data accuracy and continued cooperation. Disadvantages include a dependence on non-DFW personnel to identify the catch and record the data, the types of data that can be collected are somewhat restricted, education and cooperation of all fish purchasers are required, and only the fish that are actually sold to dealers are recorded; therefore, a potentially important portion of the total landings is unrecorded. Since 1982, DFW has tried to minimize these disadvantages as

much as possible by maintaining a close working relationship with dealers, by educating and adding new dealers to their list as they enter the business and by implementing a creel survey to help estimate total catch, including recreational and subsistence catch.

The current system collects data from dealers on the island of Saipan where DFW estimates over 90% of all CNMI commercial landings are made. Efforts are underway in 1998 to expand this data collection program to Tinian and Rota as well. The DFW also estimates that the proportion of total commercial landings that is recorded in the database for Saipan since 1983 is over 90%. Therefore, the reported data summarized herein represents an estimated 80+% of the total commercial landings for CNMI.

Information collected from the fishermen for each commercial purchase of fish includes the following:

- Date
- Buyer's name (dealer)
- Seller's name (fisherman)
- Species
- Weight (pounds)
- Price per pound
- Value
- Invoice number

These data elements are collected for all purchases of fishery products; however, species identification is frequently made only to a group level, especially for reef fish.

DATA PROCESSING SYSTEM

At the beginning of each month, a DFW employee visits each of the dealers on Saipan to obtain the previous month's invoices, resolve problems, and answer any questions the dealer may have. The invoices are returned to the office for an initial visual edit during the coding process, and are then entered into the "Purchase" database on the microcomputer. After the records are entered, reports are generated to help verify that all data were entered correctly. On a quarterly basis, copies of the database are sent to the Honolulu Laboratory, where the data are transferred to the central computer for additional editing and verification before generation of summary reports. These reports and databases are then ready for use by qualified WPacFIN participants.

DATA REPORTING SYSTEM

After all editing and quality control activities have been accomplished, monthly and annual summary reports by species are generated. Each of the following reports for 1997 contains information on the pounds, value and the average price per pound. Each monthly report contains a subtotal for the sum of all species for that month, and the December report also includes the annual total. Annual reports contain the total landings for each species and the total

recorded landings for all species for the calendar year.

The following species, species groups, and abbreviations are used in the tables and graphs of CNMI's data:

I. Pelagic Management Unit Species (PMUS)

Although the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pacific PMUS (PPMUS), this report series will continue to specify tunas as a separate category from the PPMUS. The PMUS category in this report includes:

Mahimahi (dolphin)
Marlin
Shortbill spearfish
Sailfish
Wahoo
Sharks

II. Bottomfish Management Unit Species (BMUS)

Jacks (unclassified, but excluding bigeye scad)
Bottom fish (unclassified)
Ehu (red snapper)
Gindai (flower snapper)
Grouper (unclassified)
Kalekale (pink snapper)
Lehi (silverjaw snapper)
Onaga (red or longtail snapper)
Opakapaka (pink snapper)
Uku (gray snapper)
Emperorfish

III. Billfish

Marlin (probably all blue marlin but could also include the rarely landed striped and black marlin)
Shortbill spearfish
Sailfish

IV. Tunas

Tunas (unclassified)
Skipjack tuna
Yellowfin tuna
Dogtooth tuna

V. Other Tuna

The above tunas excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagics

All PMUS and tuna species plus the following:

Troll fish (unclassified)

Barracuda

Rainbow runner

B. Bottom Fish

Same as BMUS

C. Reef Fish

Reef fish (unclassified)

Giant wrasse

Rabbitfish (hitting, hitting feda, menahac, and sesjun)

Rudderfish

Squirrelfish

Parrotfish

Snapper

Surgeonfish

Unicornfish

Goatfish

D. Other

Miscellaneous

Mullet

Milkfish

Crabs (unclassified)

Lobster

Octopus

Turtle

Bigeye scad

Eels

Invertebrates (unclassified)

Coconut crab

Shrimp

Squid

Seaweeds

Imported

III.5

Table III.1.1

CNMI 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	6,060	18,703	3.09
Jacks	2,758	8,859	3.21
Mullet	381	951	2.50
Bottom fish	3,198	8,941	2.80
Gindai (flower snap)	657	2,082	3.17
Grouper	7,269	21,479	2.95
Onaga (red snapper)	13,290	56,722	4.27
Opakapaka (pink snp)	2,224	7,201	3.24
Silver-mouth	1,100	4,708	4.28
Reef fish	110,213	240,705	2.18
Wrasse	11	33	3.00
Rabbitfish (hitting)	875	2,702	3.09
Rudderfish (guilli)	2,815	7,040	2.50
Emperor (mafute)	20,355	58,899	2.89
Squirrelfish	7,080	14,228	2.01
Parrotfish	6,157	16,029	2.60
Snapper	421	1,175	2.79
Surgeonfish	1,169	2,921	2.50
Surgeon/hagnon	2,556	6,390	2.50
Unicornfish	1,374	3,442	2.50
Goatfish	14,077	27,649	1.96
Troll fish	1,962	3,987	2.03
Barracuda	177	387	2.19
Mahimahi (Dolphin)	25,021	50,325	2.01
Marlin	5,655	10,425	1.84
Sailfish	100	199	1.99
Rainbow runner	740	1,967	2.66
Wahoo	6,064	13,696	2.26
Tunas	3,862	7,460	1.93
Skipjack tuna	106,757	231,251	2.17
Dogtooth tuna	7,646	17,344	2.27
Yellowfin tuna	17,121	42,580	2.49
Invertebrates	49	318	6.55
Spiny lobster	347	1,643	4.74
Octopus	598	1,502	2.51
** TOTAL **	380,135	893,940	2.35

Table III.1.2

CNMI January 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	608	1,732	2.85
Jacks	107	293	2.73
Mullet	79	198	2.50
Bottom fish	166	371	2.24
Gindai (flower snap)	76	179	2.36
Grouper	653	1,867	2.86
Onaga (red snapper)	3,031	13,486	4.45
Opakapaka (pink snp)	214	715	3.34
Silver-mouth	65	277	4.26
Reef fish	7,349	15,515	2.11
Rabbitfish (hitting)	129	368	2.85
Rudderfish (guilli)	294	734	2.50
Emperor (mafute)	263	677	2.58
Squirrelfish	696	1,300	1.87
Parrotfish	610	1,585	2.60
Snapper	16	31	1.94
Surgeonfish	117	291	2.50
Surgeon/hagnon	269	673	2.50
Unicornfish	158	394	2.50
Goatfish	4,721	8,697	1.84
Troll fish	36	90	2.50
Barracuda	22	39	1.75
Mahimahi (Dolphin)	2,963	6,293	2.12
Rainbow runner	10	30	3.00
Wahoo	628	1,345	2.14
Tunas	295	457	1.55
Skipjack tuna	5,823	12,866	2.21
Dogtooth tuna	639	1,246	1.95
Yellowfin tuna	1,967	5,052	2.57
Spiny lobster	24	165	7.00
Octopus	19	48	2.50
** SUBTOTAL **	32,041	77,009	2.40

III.7

Table III.1.3

CNMI February 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	533	1,579	2.96
Jacks	108	304	2.82
Mullet	36	90	2.50
Bottom fish	168	508	3.03
Gindai (flower snap)	8	26	3.50
Grouper	892	2,643	2.96
Onaga (red snapper)	1,618	7,240	4.48
Opakapaka (pink snp)	86	256	3.00
Silver-mouth	79	264	3.34
Reef fish	8,983	18,819	2.10
Rabbitfish (hitting)	287	900	3.14
Rudderfish (guilli)	226	565	2.50
Emperor (mafute)	1,579	5,359	3.39
Squirrelfish	2,190	4,081	1.86
Parrotfish	713	1,817	2.55
Surgeonfish	16	39	2.50
Surgeon/hagnon	175	436	2.50
Unicornfish	102	255	2.50
Goatfish	3,225	6,378	1.98
Troll fish	197	571	2.90
Barracuda	34	70	2.06
Mahimahi (Dolphin)	5,995	11,809	1.97
Rainbow runner	33	97	2.94
Wahoo	626	1,565	2.50
Tunas	628	1,200	1.91
Skipjack tuna	4,485	9,003	2.01
Dogtooth tuna	1,209	2,815	2.33
Yellowfin tuna	2,249	5,767	2.56
** SUBTOTAL **	36,475	84,457	2.32

Table III.1.4

CNMI March 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	1,240	3,721	3.00
Jacks	330	993	3.01
Mullet	67	168	2.50
Bottom fish	205	733	3.57
Gindai (flower snap)	91	348	3.82
Grouper	236	707	3.00
Onaga (red snapper)	407	1,832	4.50
Opakapaka (pink snp)	205	726	3.55
Silver-mouth	57	257	4.50
Reef fish	8,683	18,400	2.12
Wrasse	11	33	3.00
Rabbitfish (hitting)	140	434	3.09
Rudderfish (guilli)	289	727	2.51
Emperor (mafute)	1,817	6,217	3.42
Squirrelfish	786	1,531	1.95
Parrotfish	698	1,783	2.56
Snapper	118	363	3.09
Surgeonfish	89	223	2.50
Surgeon/hagron	234	584	2.50
Unicornfish	175	436	2.50
Goatfish	3,422	6,481	1.89
Troll fish	10	25	2.50
Barracuda	64	144	2.25
Mahimahi (Dolphin)	7,739	15,565	2.01
Rainbow runner	46	92	1.98
Wahoo	502	1,198	2.39
Tunas	275	506	1.84
Skipjack tuna	9,131	21,917	2.40
Dogtooth tuna	685	1,691	2.47
Yellowfin tuna	1,430	3,700	2.59
** SUBTOTAL **	39,180	91,531	2.34

III.9

Table III.1.5

CNMI April 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	1,043	3,129	3.00
Jacks	324	1,011	3.13
Mullet	35	86	2.50
Bottom fish	208	687	3.30
Gindai (flower snap)	60	210	3.50
Grouper	845	2,530	2.99
Onaga (red snapper)	63	284	4.50
Silver-mouth	103	349	3.38
Reef fish	11,161	23,420	2.10
Rabbitfish (hitting)	27	82	3.01
Rudderfish (guilli)	284	709	2.50
Emperor (mafute)	617	1,855	3.01
Squirrelfish	208	449	2.16
Parrotfish	536	1,366	2.55
Surgeonfish	203	508	2.50
Surgeon/hagnon	308	769	2.50
Unicornfish	215	536	2.50
Goatfish	197	491	2.50
Troll fish	340	698	2.05
Barracuda	4	6	1.75
Mahimahi (Dolphin)	4,107	8,099	1.97
Marlin	156	354	2.28
Wahoo	569	1,272	2.23
Tunas	101	186	1.84
Skipjack tuna	18,072	36,512	2.02
Dogtooth tuna	1,507	3,416	2.27
Yellowfin tuna	2,173	5,165	2.38
Invertebrates	49	318	6.55
Spiny lobster	40	260	6.50
Octopus	3	6	2.50
** SUBTOTAL **	43,552	94,760	2.18

Table III.1.6

CNMI May 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	565	1,694	3.00
Jacks	907	3,081	3.40
Mullet	49	123	2.50
Bottom fish	384	1,093	2.85
Gindai (flower snap)	146	515	3.54
Grouper	1,187	3,505	2.95
Onaga (red snapper)	1,303	5,656	4.34
Opakapaka (pink snp)	238	794	3.34
Silver-mouth	551	2,480	4.50
Reef fish	7,510	16,226	2.16
Rabbitfish (hitting)	65	205	3.13
Rudderfish (guilli)	352	879	2.50
Emperor (mafute)	3,673	10,851	2.95
Parrotfish	765	2,019	2.64
Snapper	99	272	2.75
Surgeonfish	192	479	2.50
Surgeon/hagnon	301	753	2.50
Unicornfish	242	605	2.50
Goatfish	100	250	2.50
Troll fish	67	163	2.45
Mahimahi (Dolphin)	2,175	4,271	1.96
Marlin	258	530	2.06
Sailfish	33	81	2.50
Rainbow runner	181	507	2.79
Wahoo	491	1,147	2.34
Tunas	43	65	1.50
Skipjack tuna	12,896	24,139	1.87
Dogtooth tuna	1,166	2,818	2.42
Yellowfin tuna	1,660	4,141	2.49
Octopus	13	39	3.00
** SUBTOTAL **	37,608	89,380	2.38

Table III.1.7

CNMI June 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	184	564	3.07
Jacks	245	796	3.25
Bottom fish	144	418	2.91
Gindai (flower snap)	74	259	3.50
Grouper	1,251	3,737	2.99
Onaga (red snapper)	2,868	11,266	3.93
Opakapaka (pink snp)	152	513	3.37
Silver-mouth	160	720	4.50
Reef fish	14,447	31,003	2.15
Rabbitfish (hitting)	15	47	3.07
Rudderfish (guilli)	511	1,276	2.50
Emperor (mafute)	1,197	3,064	2.56
Squirrelfish	130	289	2.23
Parrotfish	774	1,955	2.53
Snapper	40	112	2.79
Surgeonfish	61	151	2.50
Surgeon/hagnon	269	671	2.50
Unicornfish	114	284	2.50
Goatfish	468	980	2.10
Troll fish	68	169	2.50
Mahimahi (Dolphin)	104	239	2.30
Marlin	1,131	1,957	1.73
Sailfish	67	117	1.75
Rainbow runner	32	79	2.47
Wahoo	129	321	2.50
Tunas	14	35	2.50
Skipjack tuna	8,160	17,900	2.19
Dogtooth tuna	342	794	2.33
Yellowfin tuna	815	2,021	2.48
Spiny lobster	169	676	4.00
** SUBTOTAL **	34,128	82,409	2.41

Table III.1.8

CNMI July 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	37	119	3.25
Jacks	291	990	3.40
Bottom fish	382	991	2.59
Gindai (flower snap)	40	138	3.50
Grouper	348	1,002	2.88
Onaga (red snapper)	1,446	6,098	4.22
Opakapaka (pink snp)	323	1,089	3.37
Silver-mouth	85	363	4.26
Reef fish	6,146	13,841	2.25
Rabbitfish (hitting)	9	21	2.50
Rudderfish (guilli)	273	683	2.50
Emperor (mafute)	3,435	10,417	3.03
Squirrelfish	469	1,241	2.65
Parrotfish	404	1,059	2.62
Snapper	62	171	2.75
Surgeonfish	95	236	2.50
Surgeon/hagnon	146	365	2.50
Unicornfish	46	122	2.64
Goatfish	69	173	2.50
Troll fish	38	95	2.50
Mahimahi (Dolphin)	75	187	2.50
Marlin	892	1,577	1.77
Rainbow runner	58	158	2.74
Wahoo	190	498	2.63
Tunas	40	100	2.50
Skipjack tuna	11,797	25,167	2.13
Dogtooth tuna	391	856	2.19
Yellowfin tuna	1,379	3,352	2.43
Spiny lobster	55	138	2.50
Octopus	63	158	2.50
** SUBTOTAL **	29,080	71,401	2.46

Table III.1.9

CNMI August 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Jacks	37	128	3.50
Mullet	97	243	2.50
Bottom fish	659	1,648	2.50
Grouper	367	1,144	3.12
Onaga (red snapper)	972	3,886	4.00
Opakapaka (pink snp)	173	518	3.00
Reef fish	4,872	10,313	2.12
Rabbitfish (hitting)	8	24	3.00
Rudderfish (guilli)	98	245	2.50
Emperor (mafute)	2,398	6,008	2.51
Squirrelfish	26	91	3.50
Parrotfish	173	463	2.68
Surgeonfish	103	258	2.50
Surgeon/hagnon	79	198	2.50
Unicornfish	28	70	2.50
Goatfish	155	421	2.72
Troll fish	52	104	2.00
Barracuda	34	85	2.50
Marlin	742	1,362	1.84
Rainbow runner	52	130	2.50
Wahoo	124	318	2.57
Tunas	56	98	1.75
Skipjack tuna	7,315	15,521	2.12
Dogtooth tuna	70	123	1.75
Yellowfin tuna	1,197	2,962	2.47
Spiny lobster	54	375	6.92
Octopus	98	245	2.50
** SUBTOTAL **	20,038	46,979	2.34

Table III.1.10

CNMI September 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	707	2,275	3.22
Jacks	171	584	3.41
Bottom fish	176	530	3.00
Grouper	954	2,846	2.98
Onaga (red snapper)	1,197	5,231	4.37
Opakapaka (pink snp)	293	909	3.10
Reef fish	7,191	15,298	2.13
Rabbitfish (hitting)	23	69	3.05
Rudderfish (guilli)	141	353	2.50
Emperor (mafute)	2,158	5,491	2.54
Squirrelfish	32	79	2.50
Parrotfish	574	1,621	2.82
Snapper	44	121	2.75
Surgeonfish	115	288	2.50
Surgeon/hagnon	263	658	2.50
Unicornfish	130	325	2.50
Goatfish	111	276	2.50
Troll fish	1,003	1,771	1.77
Barracuda	9	21	2.50
Mahimahi (Dolphin)	10	18	1.75
Marlin	796	1,705	2.14
Rainbow runner	99	306	3.10
Wahoo	396	872	2.20
Tunas	404	774	1.91
Skipjack tuna	6,981	15,674	2.25
Dogtooth tuna	1,043	2,199	2.11
Yellowfin tuna	1,175	2,985	2.54
Spiny lobster	5	30	6.00
Octopus	88	220	2.50
** SUBTOTAL **	26,286	63,522	2.42

Table III.1.11

CNMI October 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Jacks	83	279	3.36
Bottom fish	608	1,646	2.71
Gindai (flower snap)	135	338	2.50
Grouper	525	1,464	2.79
Onaga (red snapper)	388	1,744	4.50
Opakapaka (pink snp)	393	1,234	3.14
Reef fish	17,145	38,809	2.26
Rabbitfish (hitting)	63	211	3.34
Rudderfish (guilli)	126	314	2.50
Emperor (mafute)	2,329	6,494	2.79
Squirrelfish	2,395	4,790	2.00
Parrotfish	315	860	2.73
Snapper	42	105	2.50
Surgeonfish	53	133	2.50
Surgeon/hagnon	132	329	2.50
Unicornfish	57	143	2.50
Goatfish	1,119	2,271	2.03
Troll fish	153	303	1.98
Mahimahi (Dolphin)	458	865	1.89
Marlin	1,595	2,791	1.75
Rainbow runner	11	28	2.50
Wahoo	1,170	2,224	1.90
Tunas	622	1,345	2.16
Skipjack tuna	2,192	5,450	2.49
Dogtooth tuna	406	946	2.33
Yellowfin tuna	1,406	3,593	2.55
Octopus	12	30	2.50
** SUBTOTAL **	33,929	78,735	2.32

Table III.1.12

CNMI November 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	522	1,721	3.30
Jacks	102	255	2.50
Mullet	8	20	2.50
Bottom fish	29	71	2.50
Gindai (flower snap)	28	70	2.50
Grouper	14	35	2.50
Opakapaka (pink snp)	131	384	2.94
Reef fish	8,808	20,407	2.32
Rudderfish (guilli)	79	198	2.50
Emperor (mafute)	770	2,156	2.80
Squirrelfish	58	150	2.59
Parrotfish	242	615	2.54
Surgeonfish	14	35	2.50
Surgeon/hagnon	194	485	2.50
Unicornfish	67	168	2.50
Goatfish	220	550	2.50
Mahimahi (Dolphin)	378	842	2.23
Rainbow runner	209	519	2.48
Wahoo	678	1,584	2.34
Tunas	540	1,022	1.89
Skipjack tuna	9,767	21,927	2.24
Dogtooth tuna	161	365	2.28
Yellowfin tuna	638	1,553	2.44
Octopus	117	293	2.50
** SUBTOTAL **	23,772	55,424	2.33

Table III.1.13

CNMI December 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye scad (atulai)	624	2,170	3.48
Jacks	54	147	2.74
Mullet	10	25	2.50
Bottom fish	71	247	3.50
Opakapaka (pink snp)	18	63	3.50
Reef fish	7,919	18,655	2.36
Rabbitfish (hitting)	109	343	3.16
Rudderfish (guilli)	144	360	2.50
Emperor (mafute)	120	312	2.61
Squirrelfish	91	228	2.50
Parrotfish	355	886	2.50
Surgeonfish	113	283	2.50
Surgeon/hagnon	189	471	2.50
Unicornfish	42	105	2.50
Goatfish	273	681	2.50
Barracuda	11	22	2.00
Mahimahi (Dolphin)	1,019	2,138	2.10
Marlin	85	149	1.75
Rainbow runner	9	22	2.50
Wahoo	564	1,351	2.40
Tunas	845	1,674	1.98
Skipjack tuna	10,137	25,176	2.48
Dogtooth tuna	30	75	2.50
Yellowfin tuna	1,032	2,288	2.22
Octopus	186	464	2.50
** SUBTOTAL **	24,045	58,333	2.43
** TOTAL **	380,135	893,940	2.35

Figure III.1.1

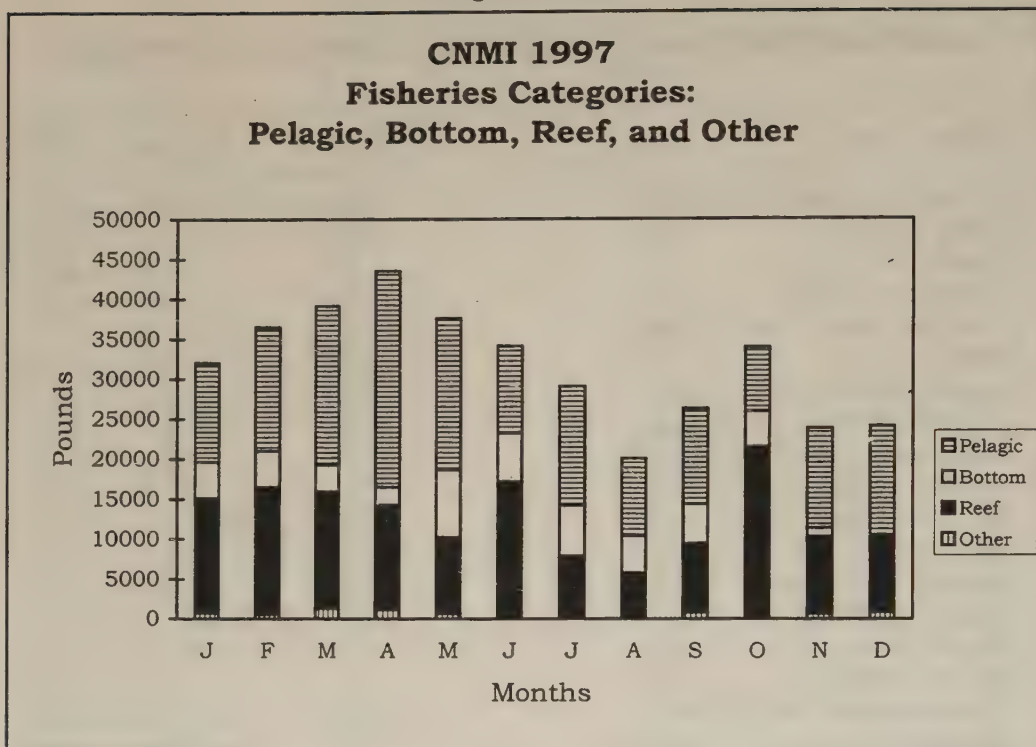


Figure III.1.2

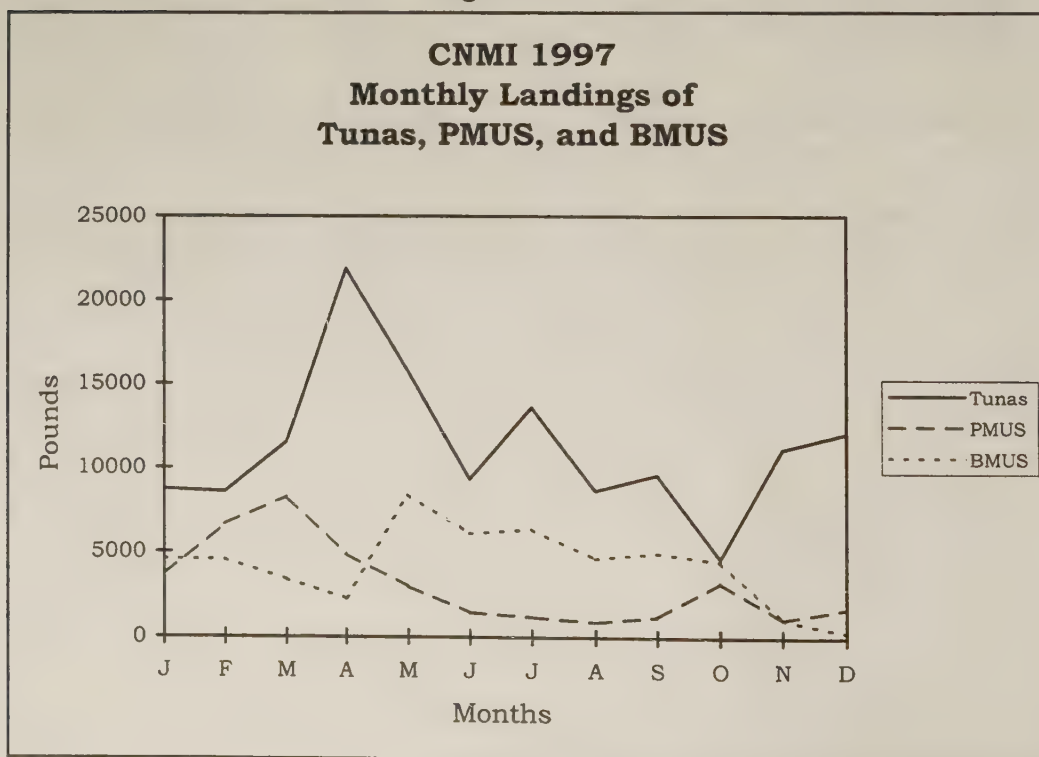


Figure III.1.3

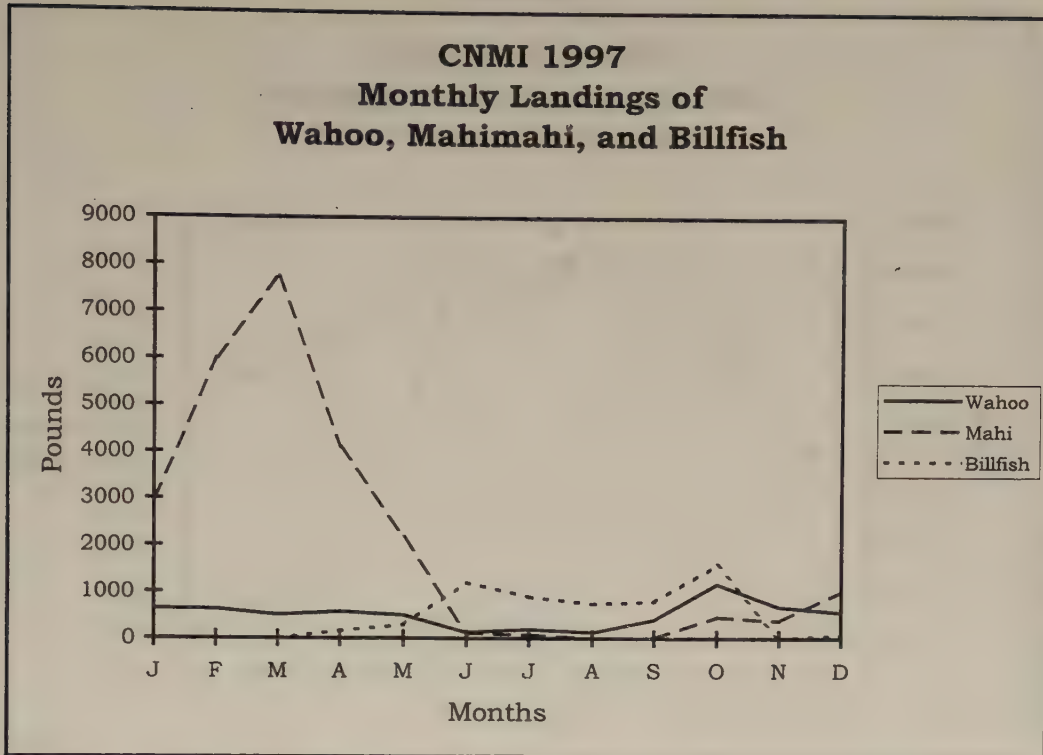


Figure III.1.4

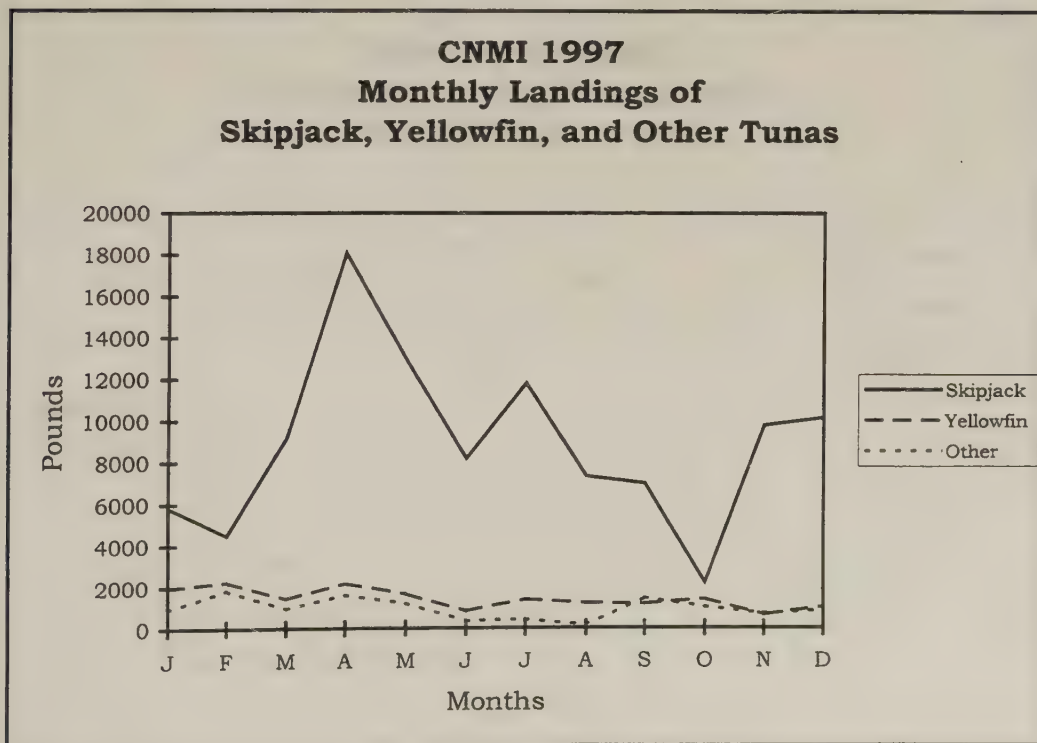


Figure III.2.1

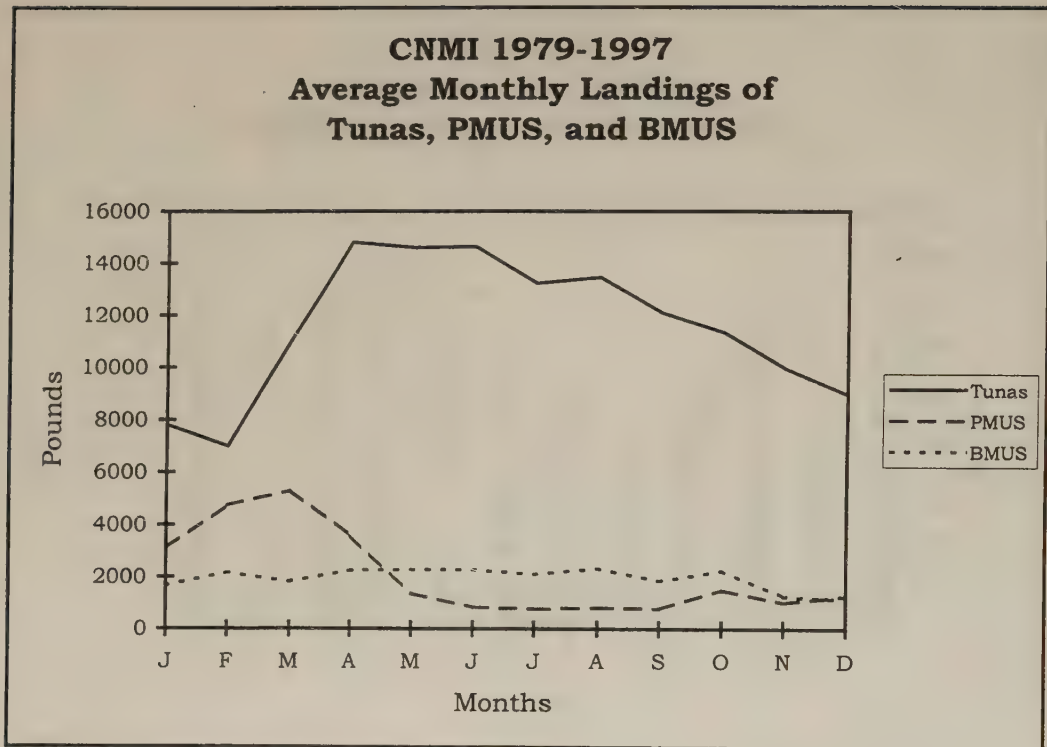


Figure III.2.2

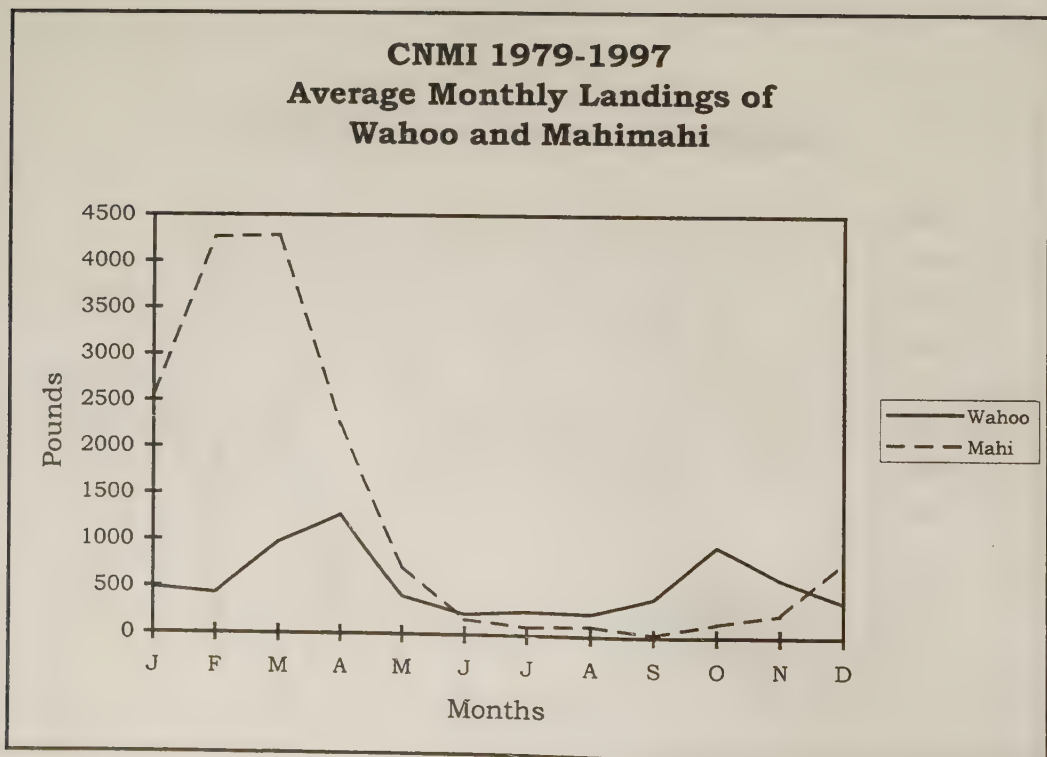


Figure III.2.3

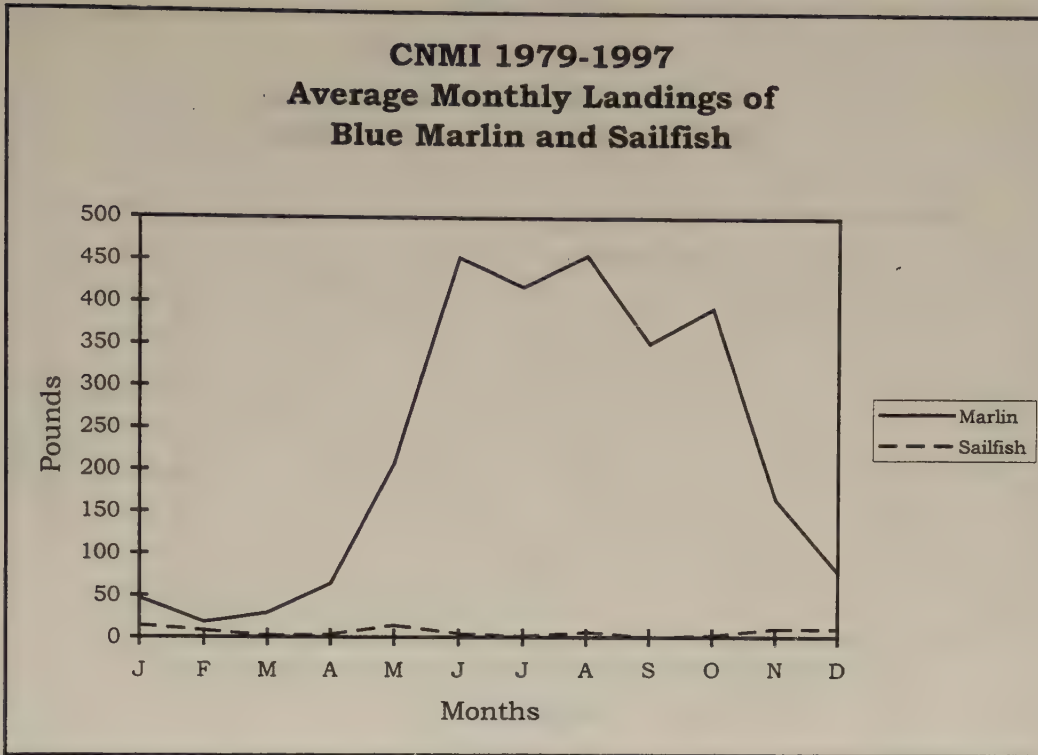


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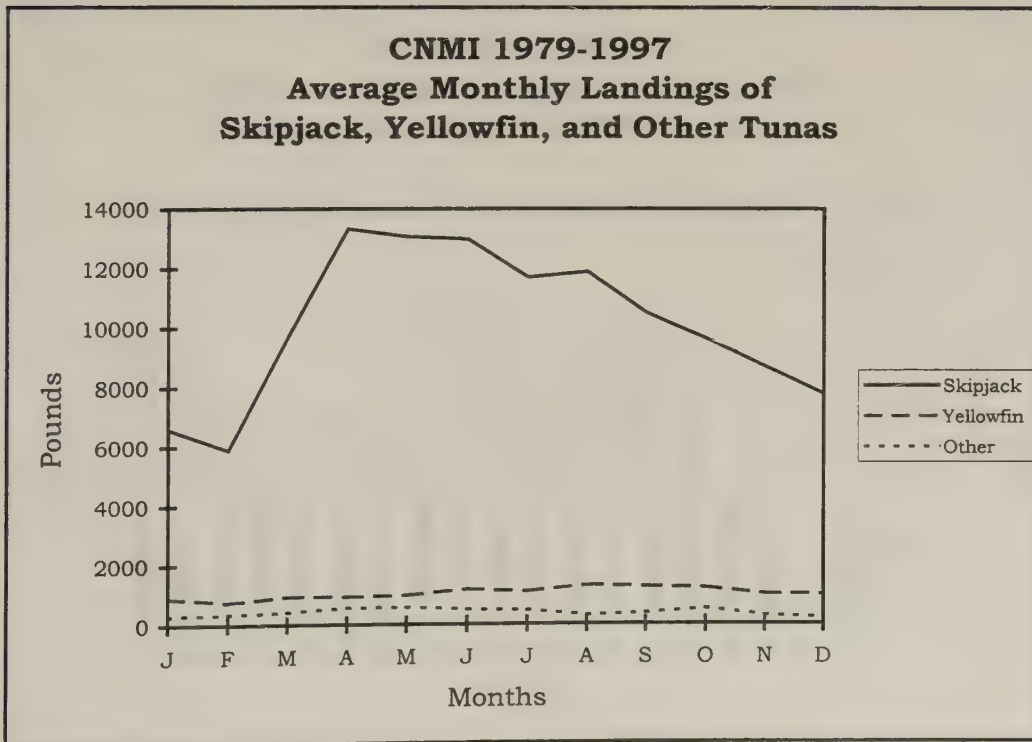


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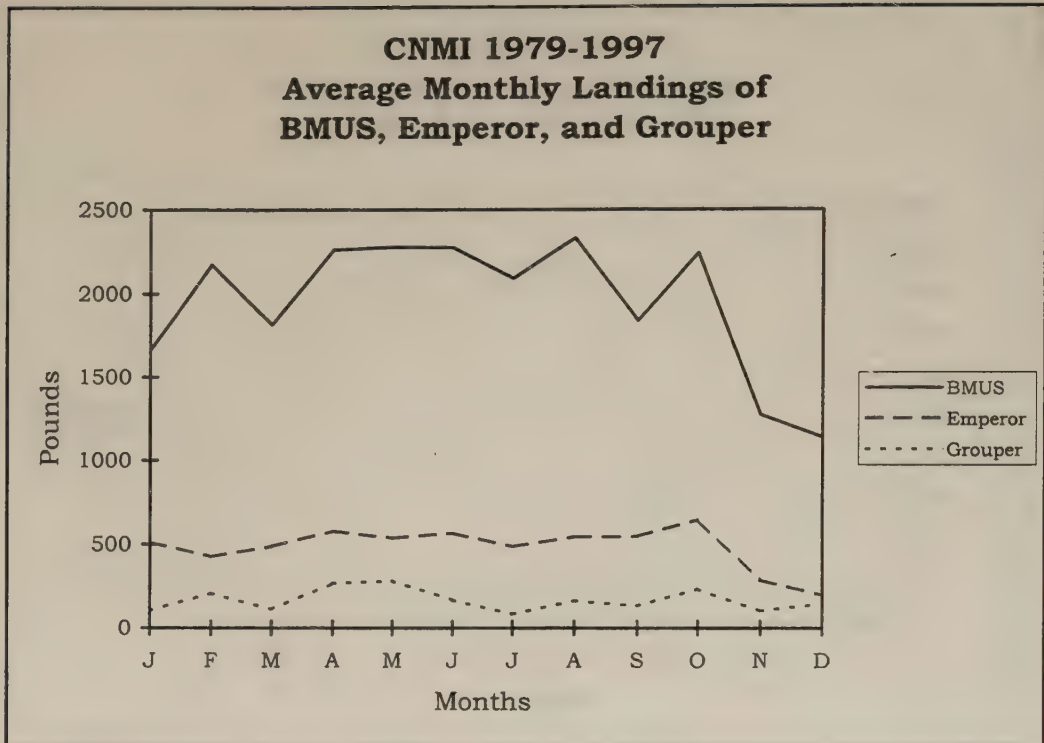


Figure III.3.1

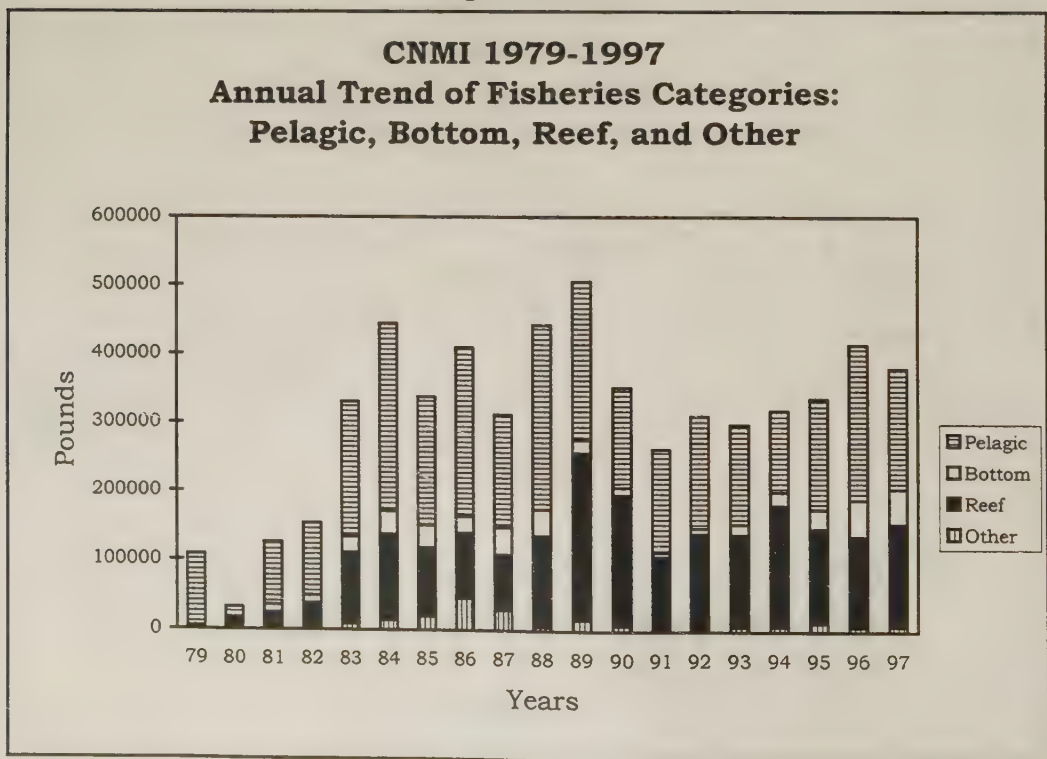


Figure III.3.2

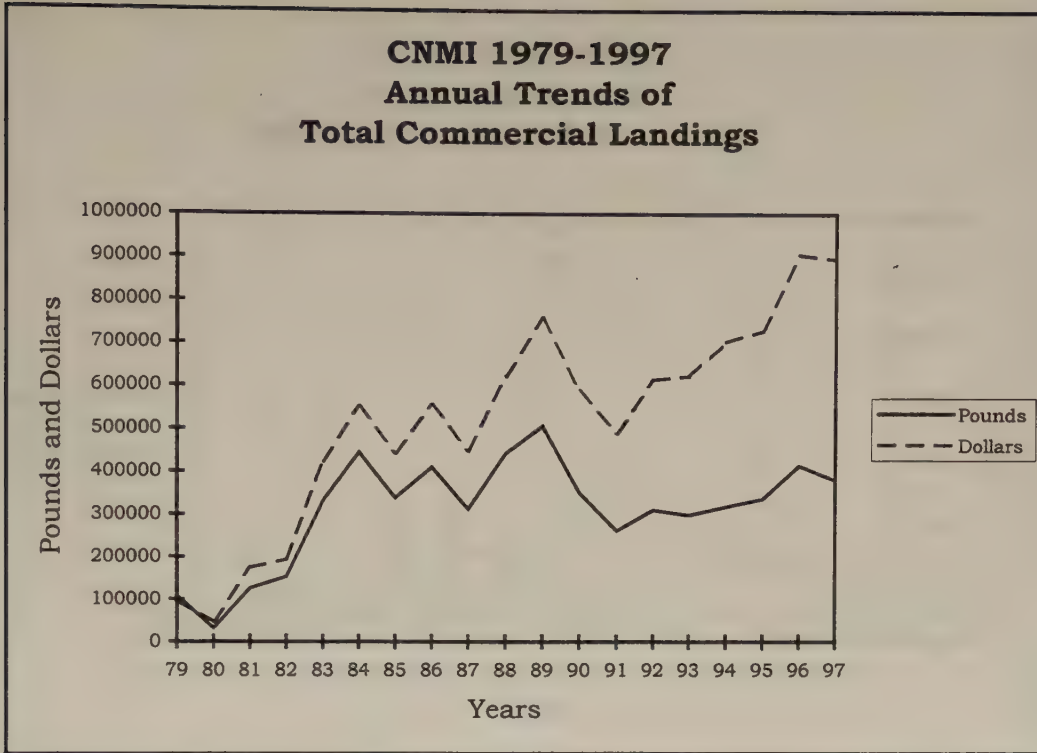


Figure III.3.3

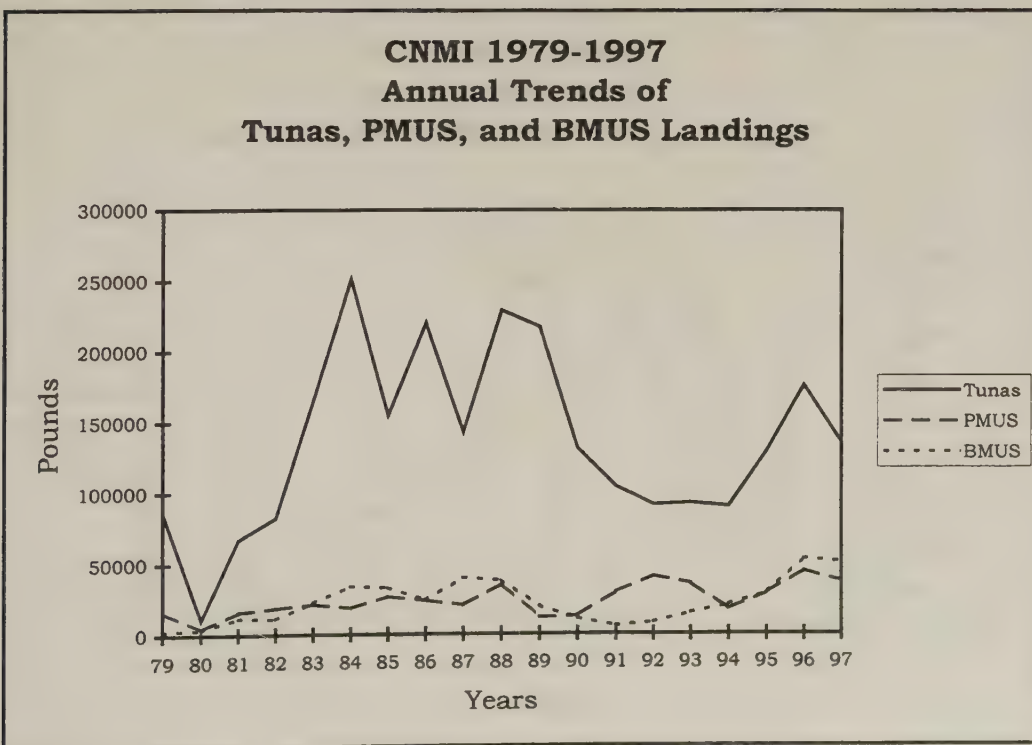


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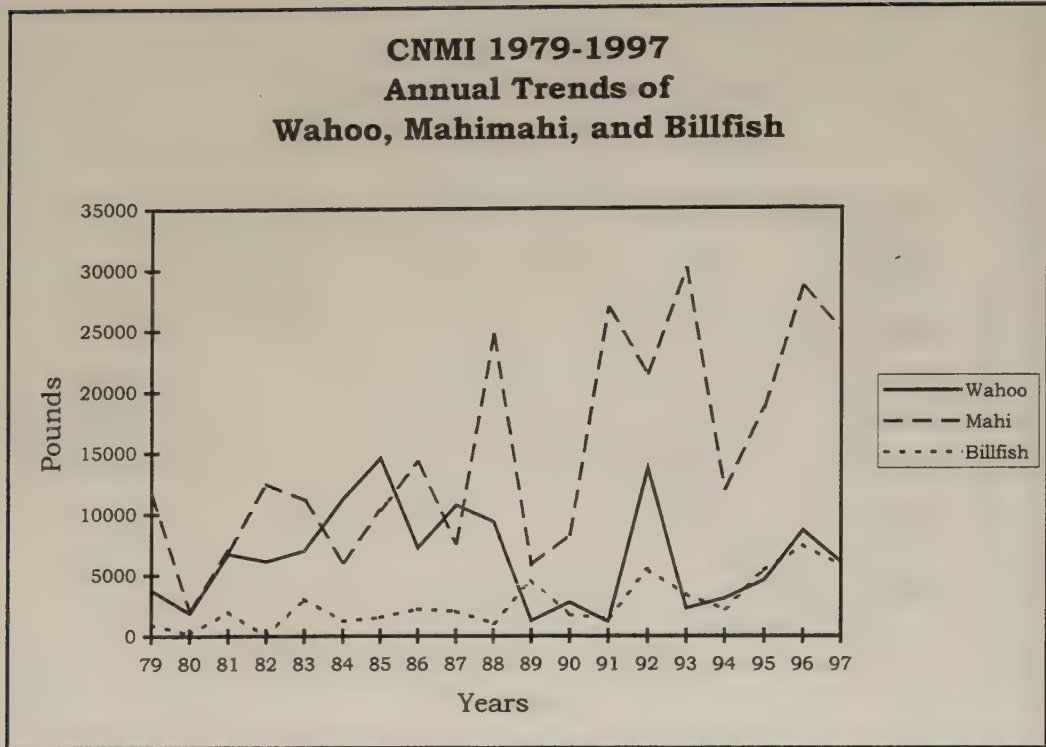


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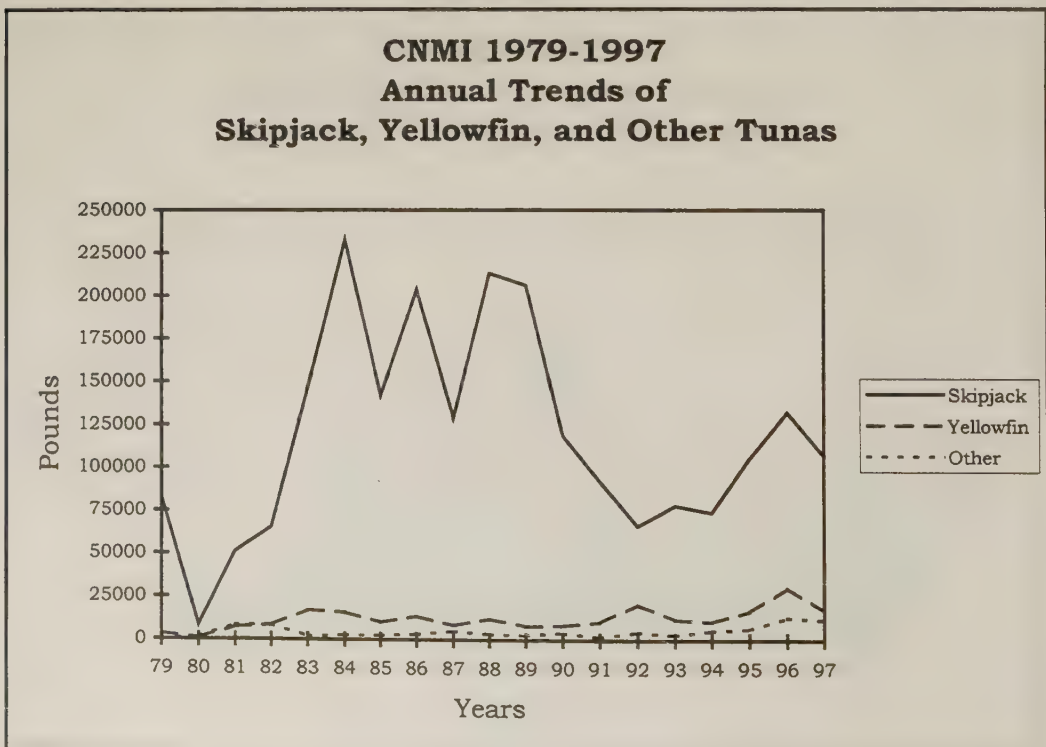


Figure III.4.1

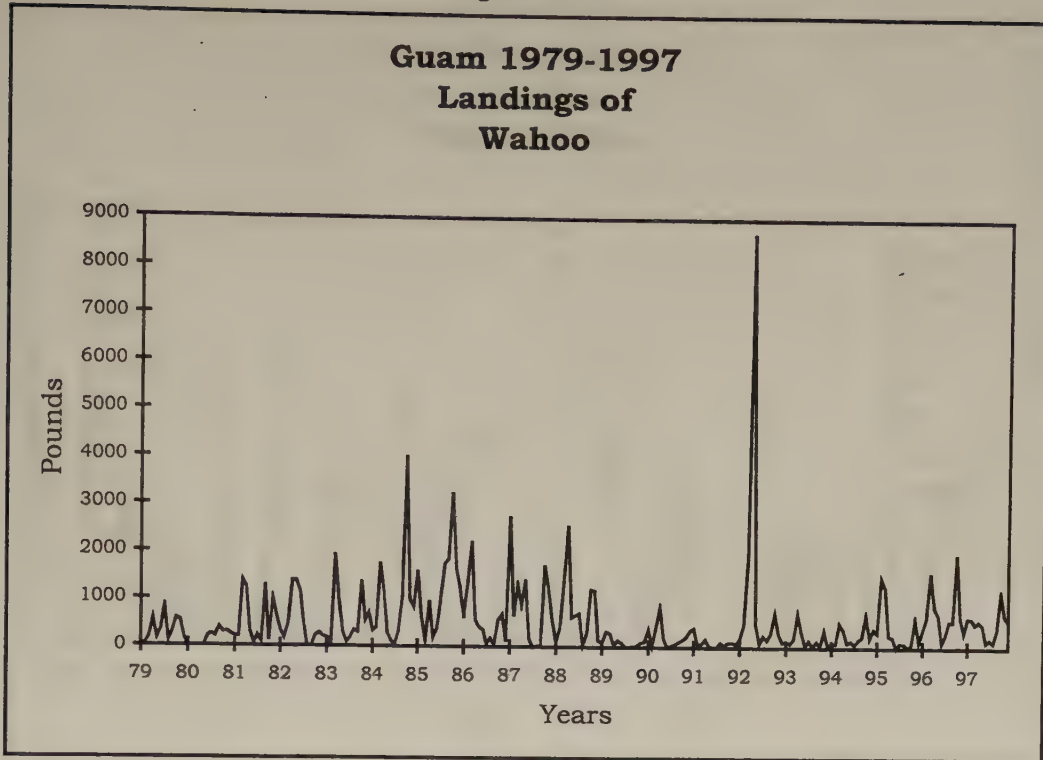


Figure III.4.2

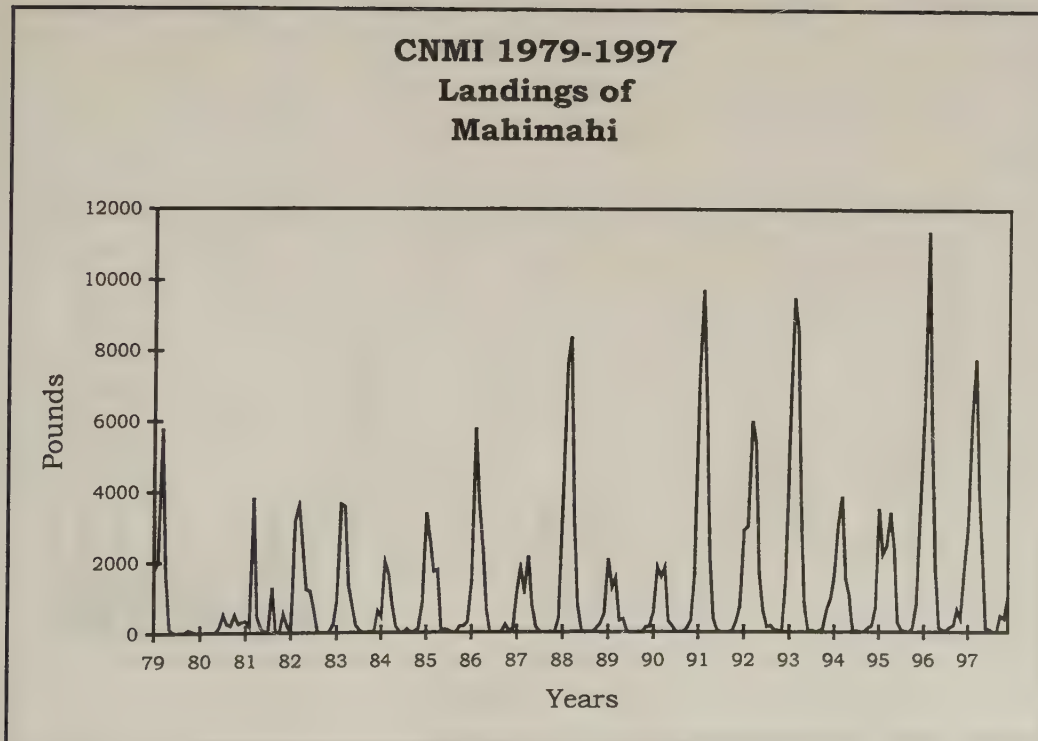


Figure III.4.3

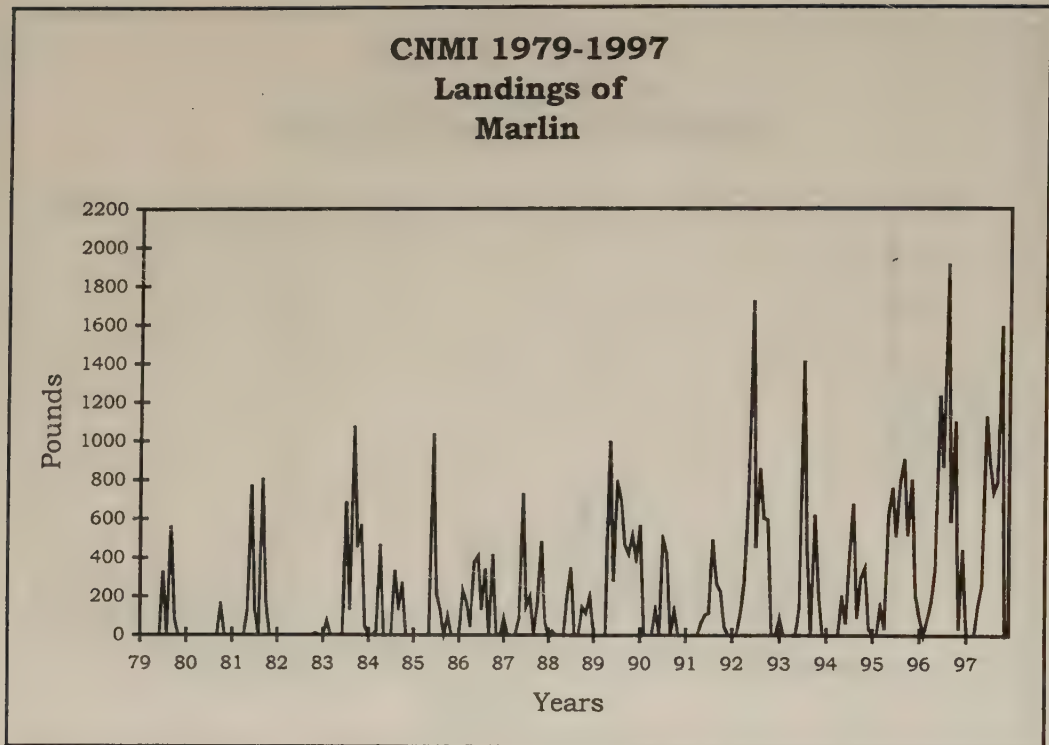


Figure III.4.4

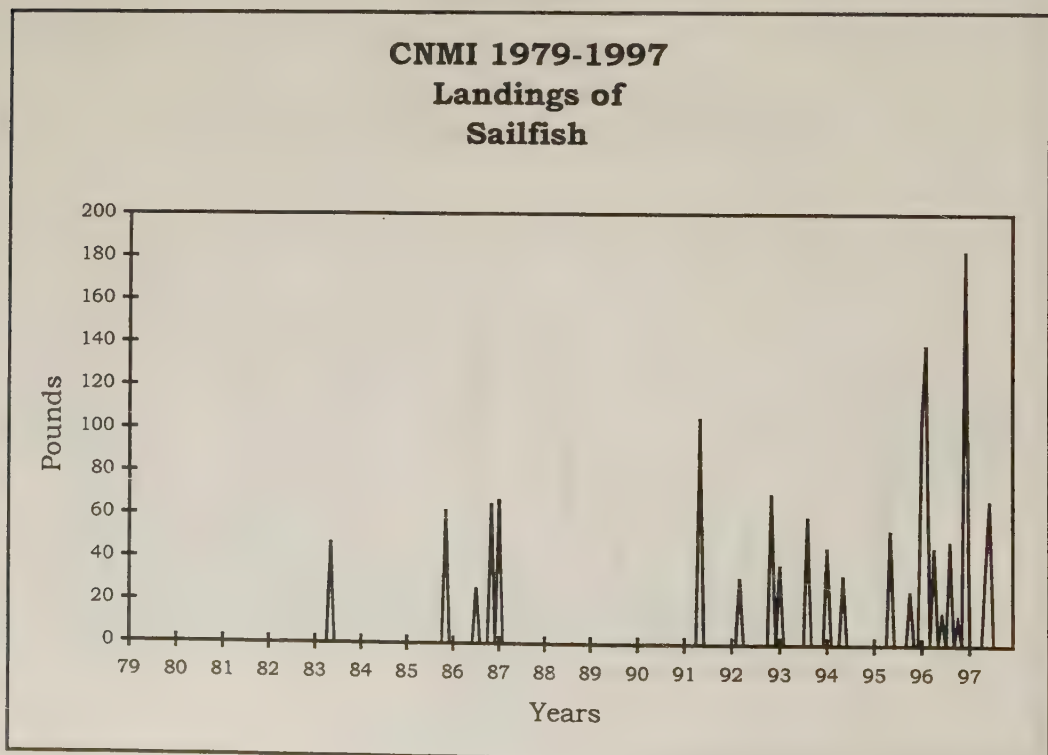


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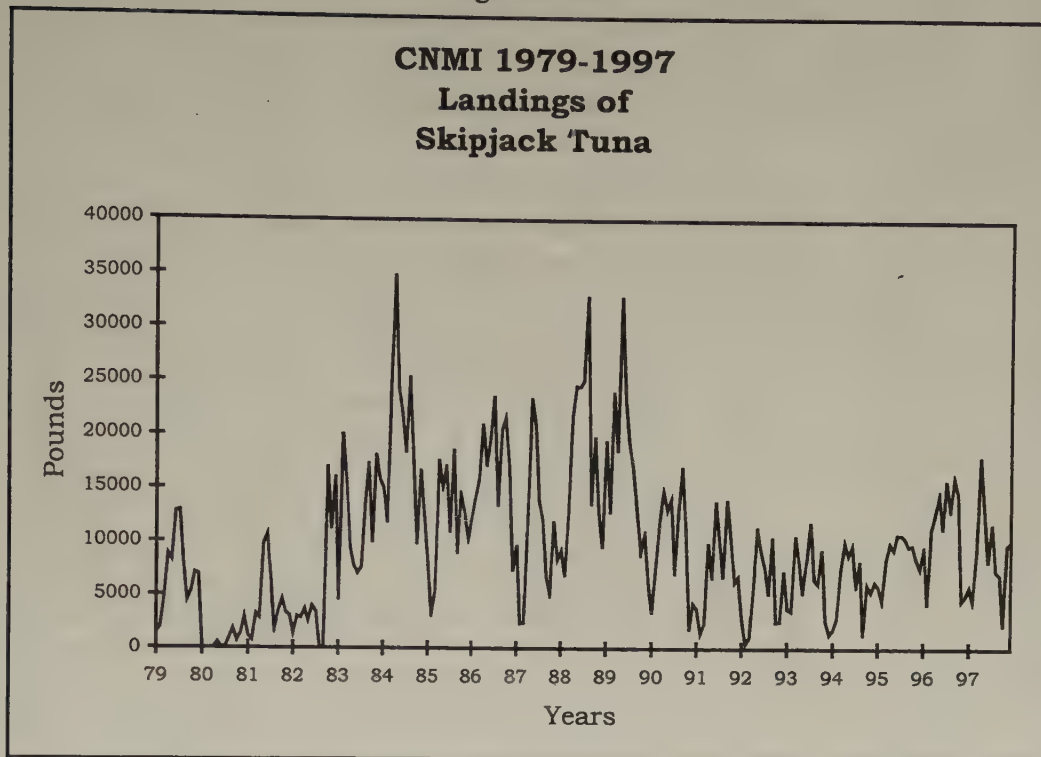


Figure III.4.6

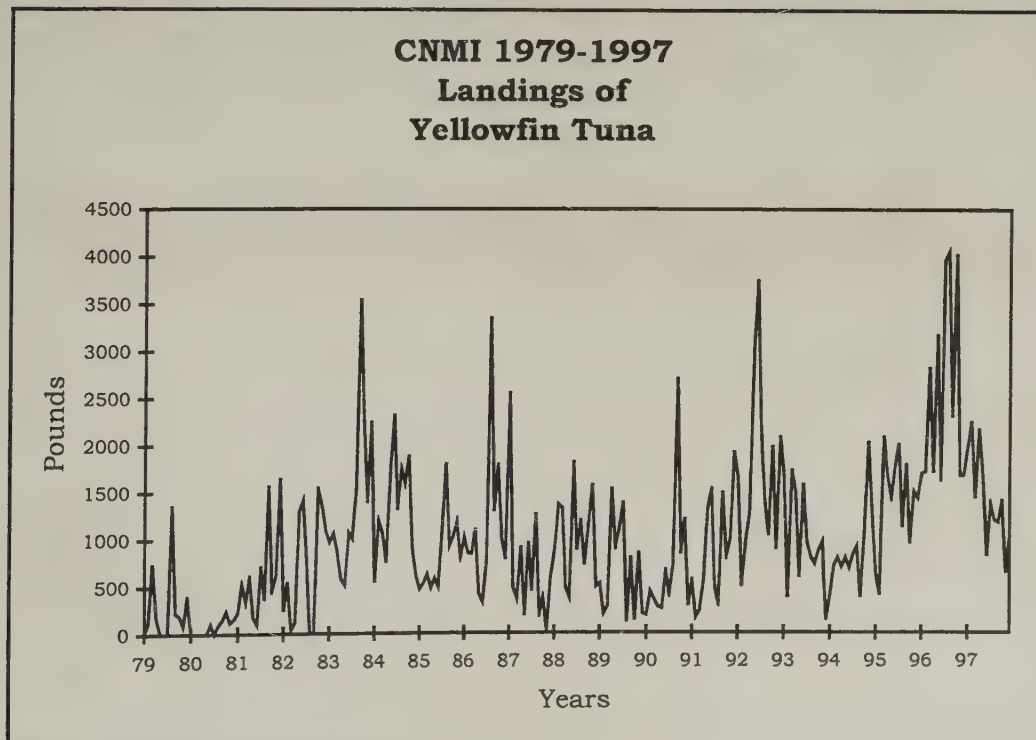


Figure III.4.7

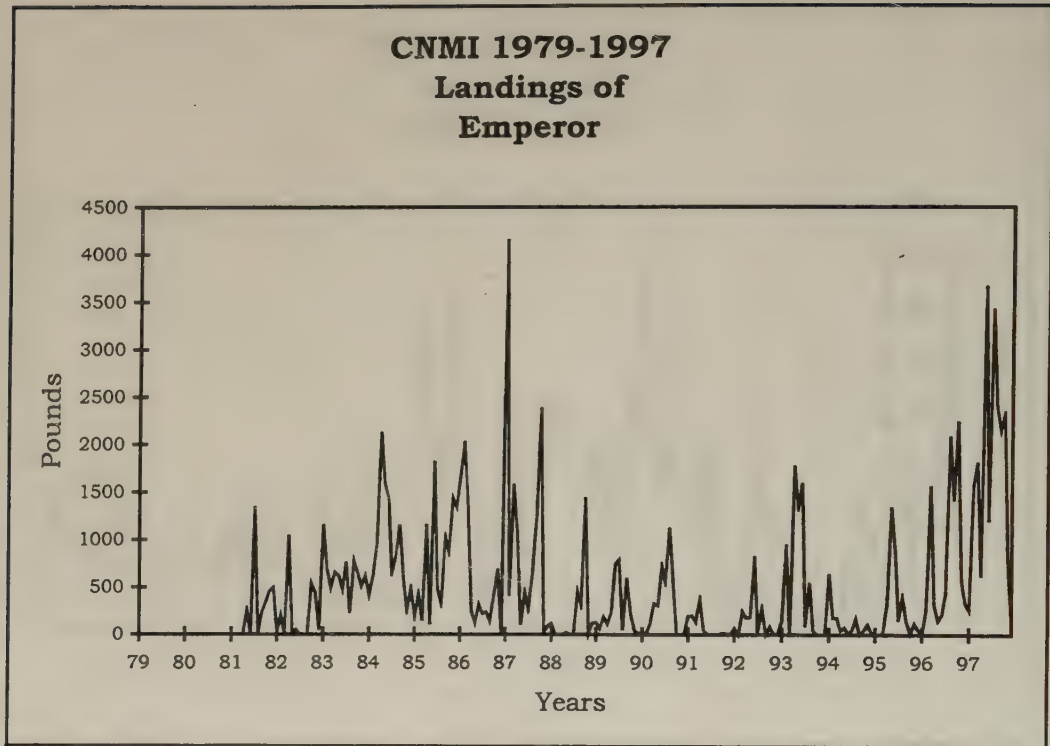
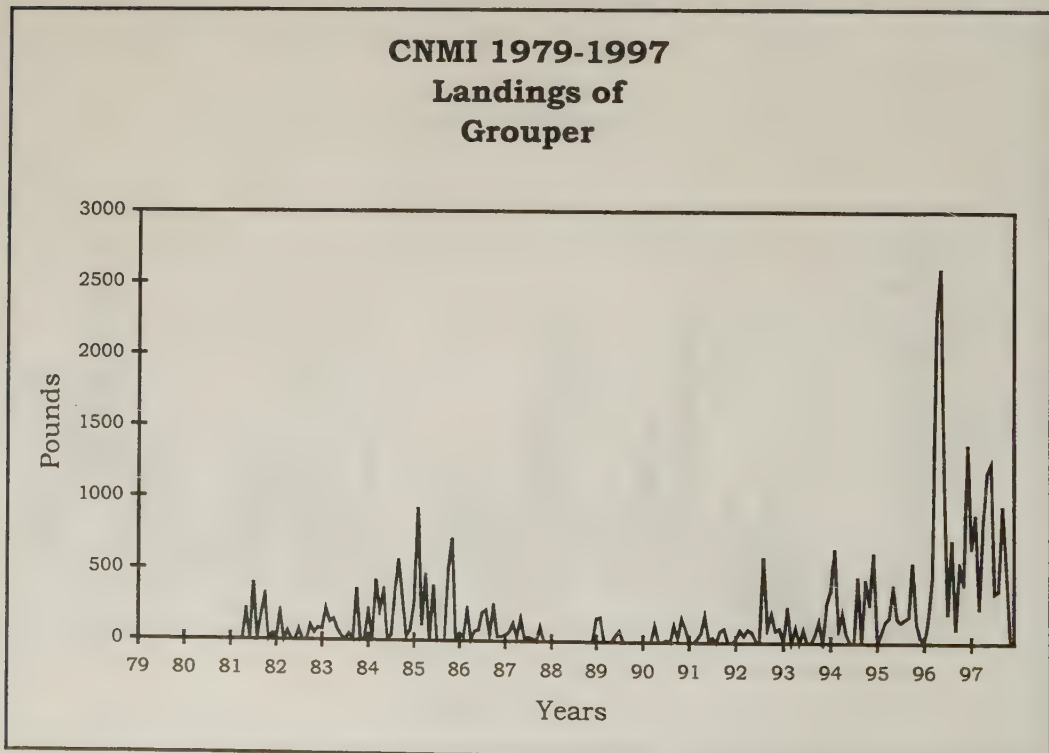


Figure III.4.8





GUAM

**Fishery Statistics
1997**

GUAM 1997 FISHERY STATISTICS

Compiled by
Guam Division of Aquatic and Wildlife Resources
and the
Western Pacific Fishery Information Network

July 1999

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GUAM 1997 FISHERY STATISTICS

INTRODUCTION

The Territory of Guam (lat. 13.4° N and long. 144.4° E) is the southernmost, largest, and most populous island in the Mariana Archipelago. All of the islands in the chain north of Guam belong to the Commonwealth of the Northern Mariana Islands. Guam is located about 6,000 km (3,700 mi.) west-southwest of Honolulu, 2,500 km (1,550 mi.) south-southeast of Tokyo, and 2,600 km (1,600 mi.) east of Manila. Guam is about 48 km (30 mi.) long, varies from 6 to 14 km (4 to 9 mi.) wide, and has an estimated land area of 554 km² (214 mi.²) and a population of about 133,000.

Fishing activities on Guam can be divided into two basic categories: offshore and inshore fishing. Offshore fishing typically involves small boats (12 to 48 feet), 1 to 2-day trolling and bottom fishing trips that usually originate from one of the three principal harbors located on the west coast and southern tip of the island. In recent years, the sportfishing charter boat industry has increased significantly. Inshore fishing is typically conducted without the use of a boat and consists mostly of nearshore casting, netting, and spearfishing. The Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR) has been conducting offshore and inshore creel surveys since the early 1970's. Beginning in 1982, DAWR began modifying its data collecting and processing systems to improve estimates of catch and effort by improving sampling techniques and by incorporating the use of microcomputers to expand the survey data. The WPacFIN provided microcomputers and training and worked with DAWR staff and a contractor to redesign the sampling program. Summary statistics from the inshore and offshore creel survey sampling programs have been included in most previous volumes of this report series using the original data processing systems provided to DAWR through WPacFIN. However, DAWR is converting its data systems to a new microcomputer environment and survey data for 1997 are not available to include in this volume. Sampling has continued without interruption to maintain the continuity of the database and efforts are on-going to process the backlog of unprocessed data. Summary statistics for the offshore fisheries should be available for publication in the next volume of this report series.

In 1982, WPacFIN also began working with local fish wholesalers to obtain information on the commercial landings of Guam through volunteer use of invoices provided by WPacFIN. No interruptions in collecting or processing these data have occurred and summaries from all participating wholesalers combined are provided in this volume as in previous volumes of this report series.

COMMERCIAL LANDINGS DATA COLLECTION SYSTEM

Fish enter the commercial market in Guam from three sources: full-time commercial fishermen, part-time commercial fishermen, and subsistence or recreational fishermen who frequently sell portions of their catch. No licenses are required to sell fish in Guam, nor are there any reporting requirements for those selling fish. Before 1979, there was no central place to sell fish, so fishermen had to develop their own markets and peddle their own fish after each trip. In

July 1979 the Guam Fishermen's Coop was established in Agana via some government funding. The Coop subsequently became the central distribution center for fresh local fish. In 1982, WPacFIN began working with the Coop to improve their invoicing system and obtain data on all fish purchases. A cooperative system was established whereby the Coop would use the forms and coding schemes designed by WPacFIN and would supply copies of all invoices to WPacFIN for entering into computer format. In return, WPacFIN would provide the Coop with document quality control and computer generated summary statistics. All purchase data back to July 1979 were also coded and computerized.

Data from two other fish wholesalers were collected beginning in 1983 and continued until early 1987 by which time both had left the business. Since then several other fish wholesalers and retailers who make purchases directly from fishermen have begun operating, and most of them are providing data to WPacFIN by using the invoices given to them by DAWR. A law has been proposed that will require reporting by dealers and possibly fishermen, but until it is implemented, the commercial landings data collection system will remain a voluntary system. Therefore, the reported commercial data do not reflect the true commercial fisheries. All tables and figures of commercial landings information included in this report are summaries from all participating dealers combined which in 1997 included 7 dealers.

Data collected on commercial forms include:

- Date
- Fisherman code
- Number of fishermen
- Hours fished
- Area fished
- Species caught
- Number of pieces caught
- Pounds caught
- Price per pound

COMMERCIAL LANDINGS DATA PROCESSING SYSTEM

The processing system for the commercial landings data collected from the fish dealers is fairly straightforward. A purchase form is completed by the dealer each time fish are purchased from a fisherman. Catches are divided into categories for weighing by species or species group, and where practicable, number of pieces is recorded. Until 1994 processing of the data was done at the central WPacFIN office in Honolulu, but since then it has been done by DAWR staff in Guam using a computer and software provided by WPacFIN. Once all edits, verifications, and corrections are made, summary reports are generated. Standard reports available include total monthly and annual landings by species, total landings by fisherman, and landings by fisherman by species.

COMMERCIAL LANDINGS DATA REPORTING SYSTEM

After completing all editing and quality control activities for the commercial landings data, monthly and annual summary reports by species are generated. Each table contains information on the pounds, value and the average price per pound for each species or species group. Each monthly report contains a subtotal for the sum of all species combined for that month, and the December report also includes the annual total. Annual reports contain the total landings for each species and the total recorded landings for all species for the calendar year.

Included with the commercial landings summary reports are graphs of some of the important statistics. The following groupings of species, species categories, and abbreviations are used in the tables and graphs for Guam's commercial landings:

I. Pelagic Management Unit Species (PMUS)

Although the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pacific PMUS (PPMUS), this report series will continue to specify tunas as a separate category from the PPMUS. The PMUS category in this report includes:

- Mahimahi (dolphin)
- Marlin (probably all blue but possibly striped or black)
- Spearfish
- Sailfish
- Wahoo
- Sharks

II. Bottomfish Management Unit Species (BMUS)

- Jacks (unclassified but excluding bigeye scad)
- Bottom fish (unclassified)
- Ehu (red snapper)
- Gindai (flower snapper)
- Grouper
- Kalekale (pink snapper)
- Lehi (silverjaw snapper)
- Onaga (red or longtail snapper)
- Opakapaka (pink snapper)
- Uku (gray snapper)
- Emperor (mafute)

III. Billfish

Marlin (probably all blue but possibly striped or black)

Spearfish

Sailfish

IV. Tunas

Tunas (unclassified)

Skipjack tuna

Yellowfin tuna

Dogtooth or white tuna

Kawakawa

V. Other Tuna

All the above tunas excluding skipjack and yellowfin tunas.

VI. Fisheries Categories

A. Pelagic Species

All PMUS and tuna species plus the following:

Troll fish (unclassified)

Barracuda

Rainbow runner

B. Bottom Fish

Same as the BMUS

C. Reef Fish

Reef fish (unclassified)

Giant wrasse

Rabbitfish

Rudderfish

Squirrelfish

Parrotfish

Snapper

Surgeonfish

Unicornfish

Goatfish

D. Other

Miscellaneous (unclassified)	Coconut crab
Bigeye scad	Lobster
Mullet	Shrimp
Eels	Octopus
Milkfish	Squid
Invertebrates (unclassified)	Seaweeds
Crabs (unclassified)	Imported

INTERPRETATION OF STATISTICS

The user is reminded again to pay heed to the precautions and assumptions identified earlier in this document when making interpretations of or inferences from data reported in the tables and graphs. Remember also that the commercial landings summaries are not based on a census of all the fishing activities, but on samples of those activities. Guam's commercial landings reported in this volume for 1997 are believed to include approximately 80% of the actual commercial landings made on Guam during that year.

IV.6

Table IV.1.1

Guam 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Unknown	420	1353	3.22
Bigeye Scad (Atulai)	5,703	15,167	2.66
Black Jack	118	323	2.74
Jacks	1,725	4,348	2.52
Mullet	180	506	2.81
Sharks	20	28	1.41
Milkfish	256	430	1.68
Bottom Fish	715	2,149	3.01
Ehu (Red Snapper)	124	491	3.98
Gindai (Flower Snap)	344	1,373	3.99
Grouper	838	2,277	2.72
Kalikali (Pink Snap)	486	1,724	3.55
Lehi (Silverjaw)	245	1,021	4.17
Onaga (Red Snapper)	137	732	5.36
Opakapaka (Pink Snp)	114	448	3.95
Uku (Gray Snapper)	448	1,187	2.65
Amberjack	135	310	2.31
Reef Fish	26,130	75,478	2.89
Wrasse	1,015	2,371	2.34
Rabbitfish	236	673	2.85
Rudderfish (Guilli)	207	621	3.00
Emperor (Mafute)	2,203	6,395	2.90
Squirrelfish	32	96	3.00
Parrotfish	1,284	3,553	2.77
Snapper	869	2,409	2.77
Surgeonfish	193	578	3.00
Unicornfish	1,208	3,617	3.00
Goatfish	10	26	2.75
Troll Fish	2,101	1,154	0.55
Barracuda	1,615	3,030	1.88
Mahimahi (Dolphin)	77,877	144,002	1.85
Marlin	42,246	49,510	1.17
Spearfish	60	78	1.30
Sailfish	843	1,160	1.38
Rainbow Runner	1,468	2,923	1.99
Wahoo	35,989	81,139	2.25
Skipjack Tuna	44,856	58,842	1.31
Dogtooth Tuna	3,062	5,066	1.65
Yellowfin Tuna	30,515	65,385	2.14
Kawakawa	33	45	1.37
Invertebrates	6	19	3.50
Crabs (Misc)	8	31	3.88
Lobster	467	1,683	3.60
Octopus	202	678	3.36
Shrimp (Saltwater)	2,272	17,145	7.55
Imported	27,995	67,331	2.41
** TOTAL **	317,001	628,904	1.98

IV.7

Table IV.1.2

Guam January 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	41	92	2.25
Black Jack	4	6	1.50
Jacks	46	97	2.14
Bottom Fish	118	349	2.97
Grouper	25	59	2.34
Kalikali (Pink Snap)	4	14	3.50
Opakapaka (Pink Snp)	17	68	4.00
Uku (Gray Snapper)	25	67	2.75
Amberjack	20	50	2.50
Reef Fish	2,724	7,927	2.91
Emperor (Mafute)	67	183	2.72
Parrotfish	139	322	2.32
Troll Fish	2,024	1,012	0.50
Barracuda	104	193	1.85
Mahimahi (Dolphin)	7,231	13,263	1.83
Marlin	207	326	1.57
Spearfish	25	31	1.25
Sailfish	78	110	1.41
Rainbow Runner	156	279	1.79
Wahoo	6,393	14,351	2.24
Skipjack Tuna	4,252	4,996	1.18
Dogtooth Tuna	679	1,090	1.61
Yellowfin Tuna	4,194	8,358	1.99
Kawakawa	1	1	1.00
Shrimp (Saltwater)	257	2,052	8.00
Imported	3,176	7,865	2.48
Tilapia (Red)	79	216	2.75
Tilapia (Grn/Black)	40	100	2.50
Catfish	46	127	2.75
** SUBTOTAL **	32,170	63,604	1.98

IV.8

Table IV.1.3

Guam February 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Mullet	14	42	3.00
Milkfish	59	118	2.00
Ehu (Red Snapper)	3	9	3.00
Gindai (Flower Snap)	3	9	3.00
Grouper	22	54	2.50
Kalikali (Pink Snap)	46	161	3.50
Onaga (Red Snapper)	15	75	5.00
Opakapaka (Pink Snp)	11	38	3.45
Amberjack	36	90	2.50
Reef Fish	1,844	5,575	3.02
Rabbitfish (Sesjun)	8	19	2.50
Snapper	21	53	2.50
Troll Fish	16	28	1.75
Barracuda	269	534	1.99
Mahimahi (Dolphin)	11,573	21,107	1.82
Marlin	309	464	1.50
Sailfish	20	25	1.25
Rainbow Runner	31	72	2.35
Wahoo	2,202	5,509	2.50
Skipjack Tuna	624	944	1.51
Dogtooth Tuna	203	423	2.08
Yellowfin Tuna	906	2,213	2.44
Kawakawa	29	41	1.40
Lobster	4	12	3.50
Shrimp (Saltwater)	145	1,156	8.00
Imported	2,488	6,220	2.50
Tilapia (Misc)	520	1,300	2.50
Catfish	36	90	2.50
** SUBTOTAL **	21,455	46,378	2.16

IV.9

Table IV.1.4

Guam March 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Jacks	7	21	3.00
Milkfish	87	174	2.00
Reef Fish	1,246	3,633	2.92
Parrotfish	37	111	3.00
Snapper	29	71	2.50
Unicornfish	322	965	3.00
Barracuda	124	255	2.06
Mahimahi (Dolphin)	14,649	26,629	1.82
Marlin	784	1,295	1.65
Spearfish	12	18	1.50
Sailfish	101	151	1.50
Rainbow Runner	55	113	2.08
Wahoo	3,006	7,664	2.55
Skipjack Tuna	1,287	2,333	1.81
Dogtooth Tuna	82	155	1.89
Yellowfin Tuna	1,574	3,894	2.47
Lobster	2	6	3.50
Shrimp (Saltwater)	39	312	8.00
Imported	2,194	5,484	2.50
Tilapia (Misc)	560	1,400	2.50
Catfish	40	100	2.50
** SUBTOTAL **	26,233	54,784	2.09

IV.10

Table IV.1.5

Guam April 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	102	255	2.50
Jacks	122	284	2.33
Gindai (Flower Snap)	3	12	4.00
Grouper	4	12	3.00
Kalikali (Pink Snap)	5	20	4.00
Opakapaka (Pink Snp)	8	32	4.00
Uku (Gray Snapper)	11	25	2.25
Reef Fish	2,516	7,026	2.79
Emperor (Mafute)	57	171	3.00
Parrotfish	55	138	2.50
Barracuda	141	243	1.72
Mahimahi (Dolphin)	18,628	32,782	1.76
Marlin	581	766	1.32
Sailfish	162	224	1.39
Rainbow Runner	111	196	1.77
Wahoo	1,687	4,004	2.37
Skipjack Tuna	5,739	8,004	1.39
Dogtooth Tuna	229	368	1.61
Yellowfin Tuna	2,236	4,536	2.03
Lobster	3	11	3.50
Shrimp (Saltwater)	164	1,312	8.00
Imported	1,849	4,623	2.50
Tilapia (Misc)	420	1,050	2.50
Catfish	90	225	2.50
** SUBTOTAL **	34,922	66,315	1.90

IV.11

Table IV.1.6

Guam May 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Jacks	176	419	2.38
Mullet	21	63	3.00
Sharks	15	26	1.75
Bottom Fish	77	241	3.13
Ehu (Red Snapper)	9	36	4.00
Gindai (Flower Snap)	58	232	4.00
Grouper	173	507	2.94
Kalikali (Pink Snap)	119	417	3.50
Lehi (Silverjaw)	92	409	4.46
Onaga (Red Snapper)	72	360	5.00
Opakapaka (Pink Snp)	51	202	4.00
Uku (Gray Snapper)	162	441	2.73
Amberjack	20	40	2.00
Reef Fish	1,261	3,488	2.77
Wrasse	36	68	1.88
Emperor (Mafute)	795	2,220	2.79
Parrotfish	52	104	2.00
Snapper	38	114	3.00
Surgeonfish	7	21	3.00
Goatfish	6	15	2.75
Troll Fish	14	21	1.50
Barracuda	162	276	1.71
Mahimahi (Dolphin)	4,751	9,247	1.95
Marlin	4,541	6,151	1.35
Rainbow Runner	190	336	1.77
Wahoo	1,275	3,103	2.43
Skipjack Tuna	10,758	13,801	1.28
Dogtooth Tuna	489	651	1.33
Yellowfin Tuna	1,930	3,879	2.01
Lobster	6	21	3.75
Octopus	6	17	2.75
Shrimp (Saltwater)	251	2,008	8.00
Imported	1,431	3,531	2.47
Tilapia (Misc)	577	1,443	2.50
Tilapia (Red)	138	345	2.50
Catfish	50	125	2.50
** SUBTOTAL **	29,805	54,378	1.82

Table IV.1.7

Guam June 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Unknown	207	828	4.00
Miscellaneous	25	55	2.25
Bigeye Scad (Atulai)	61	183	3.00
Jacks	174	415	2.39
Mullet	62	186	3.00
Bottom Fish	216	631	2.93
Gindai (Flower Snap)	20	80	4.00
Grouper	338	845	2.50
Kalikali (Pink Snap)	5	18	3.50
Lehi (Silverjaw)	3	10	4.00
Opakapaka (Pink Snp)	4	14	4.00
Uku (Gray Snapper)	61	162	2.66
Reef Fish	2,208	6,400	2.90
Emperor (Mafute)	234	685	2.93
Parrotfish	69	207	3.00
Snapper	61	182	2.98
Surgeonfish	10	30	3.00
Barracuda	97	166	1.71
Mahimahi (Dolphin)	377	666	1.77
Marlin	10,231	11,805	1.15
Rainbow Runner	124	232	1.87
Wahoo	268	657	2.45
Skipjack Tuna	4,883	5,808	1.19
Dogtooth Tuna	417	727	1.74
Yellowfin Tuna	1,448	3,042	2.10
Lobster	47	175	3.72
Shrimp (Saltwater)	185	1,476	8.00
Imported	1,561	3,860	2.47
Tilapia (Misc)	552	1,380	2.50
** SUBTOTAL **	23,945	40,923	1.71

IV.13

Table IV.1.8

Guam July 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye Scad (Atulai)	127	381	3.00
Black Jack	8	12	1.50
Bottom Fish	17	65	3.82
Gindai (Flower Snap)	5	20	4.00
Grouper	2	2	1.50
Kalikali (Pink Snap)	14	49	3.50
Opakapaka (Pink Snp)	6	24	4.00
Amberjack	6	12	2.00
Reef Fish	2,115	6,240	2.95
Wrasse	243	547	2.25
Emperor (Mafute)	27	68	2.50
Parrotfish	128	321	2.52
Unicornfish	12	35	3.00
Barracuda	30	57	1.92
Mahimahi (Dolphin)	246	428	1.74
Marlin	7,622	8,282	1.09
Sailfish	203	254	1.25
Rainbow Runner	183	392	2.14
Wahoo	597	1,773	2.97
Skipjack Tuna	3,796	4,649	1.22
Dogtooth Tuna	107	171	1.60
Yellowfin Tuna	2,538	5,635	2.22
Kawakawa	2	3	1.25
Lobster	79	290	3.67
Octopus	7	24	3.36
Shrimp (Saltwater)	194	1,552	8.00
Imported	1,792	4,278	2.39
Tilapia (Misc)	564	1,410	2.50
Tilapia (Red)	32	88	2.75
** SUBTOTAL **	20,702	37,061	1.79

IV.14

Table IV.1.9

Guam August 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	21	63	3.00
Bigeye Scad (Atulai)	123	327	2.66
Jacks	28	84	3.00
Mullet	24	72	3.00
Grouper	12	48	4.00
Kalikali (Pink Snap)	7	25	3.50
Lehi (Silverjaw)	85	340	4.00
Opakapaka (Pink Snp)	5	20	4.00
Reef Fish	3,252	9,609	2.96
Wrasse	323	742	2.30
Emperor (Mafute)	15	45	3.00
Parrotfish	49	109	2.25
Troll Fish	5	9	1.75
Barracuda	51	99	1.95
Mahimahi (Dolphin)	93	216	2.33
Marlin	6,931	7,994	1.15
Sailfish	25	31	1.25
Rainbow Runner	91	184	2.03
Wahoo	634	1,723	2.72
Skipjack Tuna	3,108	4,003	1.29
Dogtooth Tuna	62	124	2.00
Yellowfin Tuna	4,270	9,052	2.12
Lobster	113	394	3.50
Shrimp (Saltwater)	313	2,504	8.00
Imported	1,220	2,878	2.36
Tilapia (Misc)	1,077	2,706	2.51
Tilapia (Red)	139	382	2.75
** SUBTOTAL **	22,073	43,782	1.98

IV.15

Table IV.1.10

Guam September 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye Scad (Atulai)	605	1,814	3.00
Jacks	652	1,696	2.60
Milkfish	110	138	1.25
Bottom Fish	117	351	3.00
Ehu (Red Snapper)	49	194	4.00
Gindai (Flower Snap)	156	622	4.00
Grouper	88	263	3.00
Kalikali (Pink Snap)	70	244	3.51
Lehi (Silverjaw)	23	92	4.00
Onaga (Red Snapper)	35	210	6.00
Opakapaka (Pink Snp)	4	16	4.00
Uku (Gray Snapper)	36	88	2.46
Reef Fish	2,837	8,403	2.96
Rabbitfish (Hitting)	144	432	3.00
Rudderfish (Guilli)	90	270	3.00
Emperor (Mafute)	450	1,350	3.00
Parrotfish	49	147	3.00
Snapper	398	1,091	2.74
Unicornfish	93	279	3.00
Barracuda	132	251	1.90
Mahimahi (Dolphin)	216	480	2.22
Marlin	4,512	4,949	1.10
Sailfish	90	127	1.41
Rainbow Runner	112	230	2.05
Wahoo	1,660	4,322	2.60
Skipjack Tuna	3,316	4,359	1.31
Dogtooth Tuna	464	765	1.65
Yellowfin Tuna	2,918	5,934	2.03
Lobster	127	448	3.54
Shrimp (Saltwater)	272	1,966	7.23
Imported	2,227	5,087	2.28
Tilapia (Misc)	720	1,709	2.37
Tilapia (Red)	60	165	2.75
Catfish	94	211	2.24
** SUBTOTAL **	22,922	48,701	2.12

IV.16

Table IV.1.11

Guam October 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Unknown	24	60	2.50
Bigeye Scad (Atulai)	3,054	8,901	2.91
Black Jack	106	305	2.88
Jacks	147	398	2.72
Mullet	40	100	2.50
Sharks	6	3	0.50
Bottom Fish	75	225	3.00
Ehu (Red Snapper)	54	216	4.00
Gindai (Flower Snap)	74	294	4.00
Grouper	107	295	2.76
Kalikali (Pink Snap)	184	666	3.62
Lehi (Silverjaw)	43	170	4.00
Onaga (Red Snapper)	15	87	6.00
Opakapaka (Pink Snp)	9	34	4.00
Uku (Gray Snapper)	66	163	2.45
Reef Fish	1,993	5,792	2.91
Wrasse	87	196	2.25
Rabbitfish (Sesjun)	60	150	2.50
Rudderfish (Guilli)	65	195	3.00
Emperor (Mafute)	200	600	3.00
Snapper	80	204	2.54
Unicornfish	12	30	2.50
Goatfish	4	11	2.75
Troll Fish	42	84	2.00
Barracuda	261	495	1.90
Mahimahi (Dolphin)	5,485	11,434	2.08
Marlin	3,587	4,250	1.18
Spearfish	23	29	1.25
Sailfish	166	239	1.44
Rainbow Runner	101	196	1.95
Wahoo	1,910	5,009	2.62
Skipjack Tuna	3,246	4,477	1.38
Dogtooth Tuna	92	159	1.72
Yellowfin Tuna	4,080	9,406	2.31
Invertebrates	6	19	3.50
Crabs (Misc)	7	28	4.00
Lobster	11	38	3.54
Octopus	12	40	3.24
Shrimp (Saltwater)	222	1,347	6.07
Imported	2,651	5,501	2.08
** SUBTOTAL **	28,403	61,844	2.18

IV.17

Table IV.1.12

Guam November 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye Scad (Atulai)	1,447	2,980	2.06
Jacks	352	865	2.46
Mullet	19	43	2.25
Bottom Fish	96	287	3.00
Gindai (Flower Snap)	16	64	4.00
Grouper	34	94	2.76
Uku (Gray Snapper)	88	241	2.75
Reef Fish	2,416	6,746	2.79
Wrasse	162	387	2.40
Rudderfish (Guilli)	52	156	3.00
Emperor (Mafute)	294	882	3.00
Squirrelfish	23	69	3.00
Parrotfish	660	1,950	2.96
Snapper	191	540	2.82
Surgeonfish	176	527	3.00
Unicornfish	415	1,244	3.00
Barracuda	152	279	1.84
Mahimahi (Dolphin)	4,673	8,733	1.87
Marlin	2,820	3,047	1.08
Rainbow Runner	199	440	2.21
Wahoo	5,673	12,212	2.15
Skipjack Tuna	2,965	4,206	1.42
Dogtooth Tuna	151	246	1.63
Yellowfin Tuna	2,902	6,193	2.13
Crabs (Misc)	1	3	3.00
Lobster	74	277	3.73
Octopus	97	358	3.69
Shrimp (Saltwater)	169	1,014	6.00
Imported	1,192	2,531	2.12
Tilapia (Misc)	120	300	2.50
** SUBTOTAL **	27,626	56,911	2.06

Table IV.1.13

Guam December 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Bigeye Scad (Atulai)	287	582	2.03
Jacks	23	69	3.00
Ehu (Red Snapper)	9	36	4.00
Gindai (Flower Snap)	10	40	4.00
Grouper	35	99	2.81
Kalikali (Pink Snap)	32	112	3.50
Amberjack	53	118	2.25
Reef Fish	1,718	4,639	2.70
Wrasse	165	432	2.62
Rabbitfish (Hitting)	24	72	3.00
Emperor (Mafute)	64	192	3.00
Squirrelfish	9	27	3.00
Parrotfish	48	144	3.00
Snapper	52	156	3.00
Unicornfish	355	1,065	3.00
Barracuda	93	184	1.97
Mahimahi (Dolphin)	9,956	19,016	1.91
Marlin	122	183	1.50
Rainbow Runner	117	253	2.16
Wahoo	10,684	20,814	1.95
Skipjack Tuna	881	1,262	1.43
Dogtooth Tuna	86	187	2.17
Yellowfin Tuna	1,520	3,244	2.14
Lobster	3	10	3.75
Octopus	79	239	3.02
Shrimp (Saltwater)	62	446	7.19
Imported	100	200	2.00
Tilapia (Misc)	161	403	2.50
** SUBTOTAL **	26,746	54,223	2.03
** TOTAL **	317,001	628,904	1.98

Figure IV.1.1

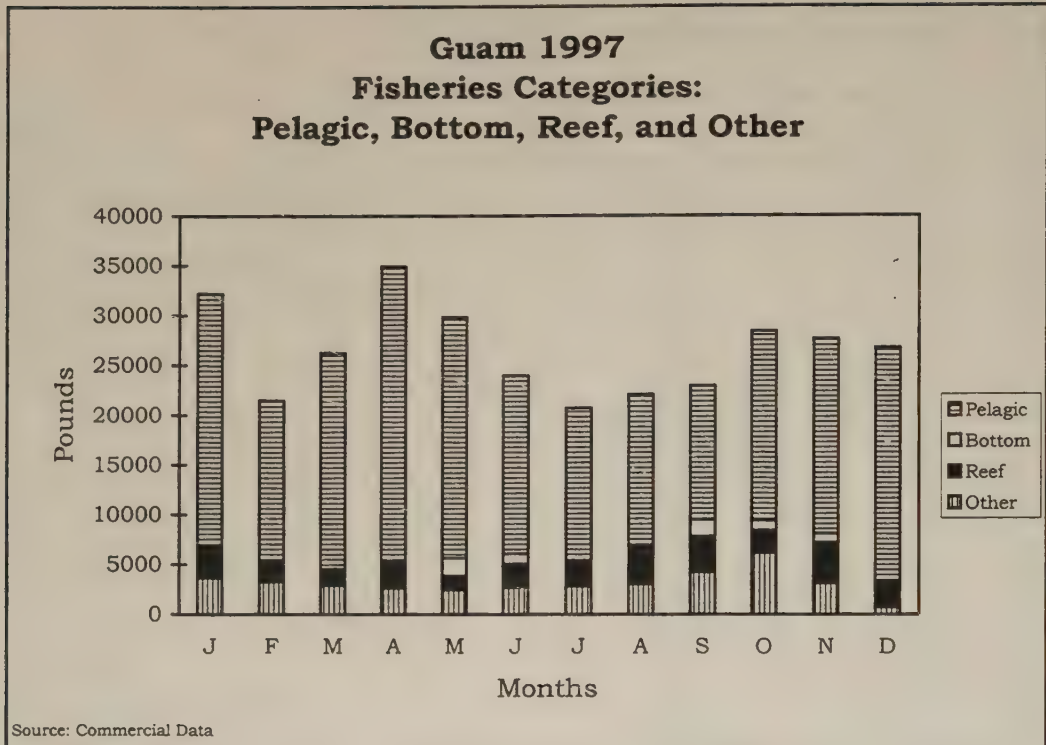


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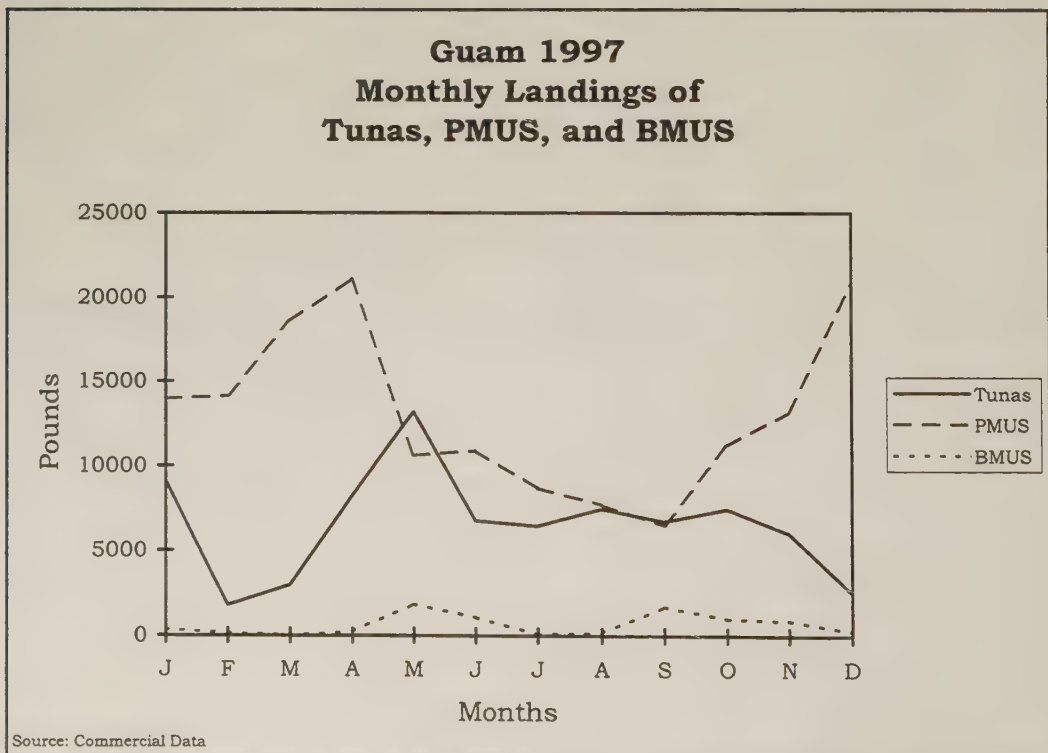


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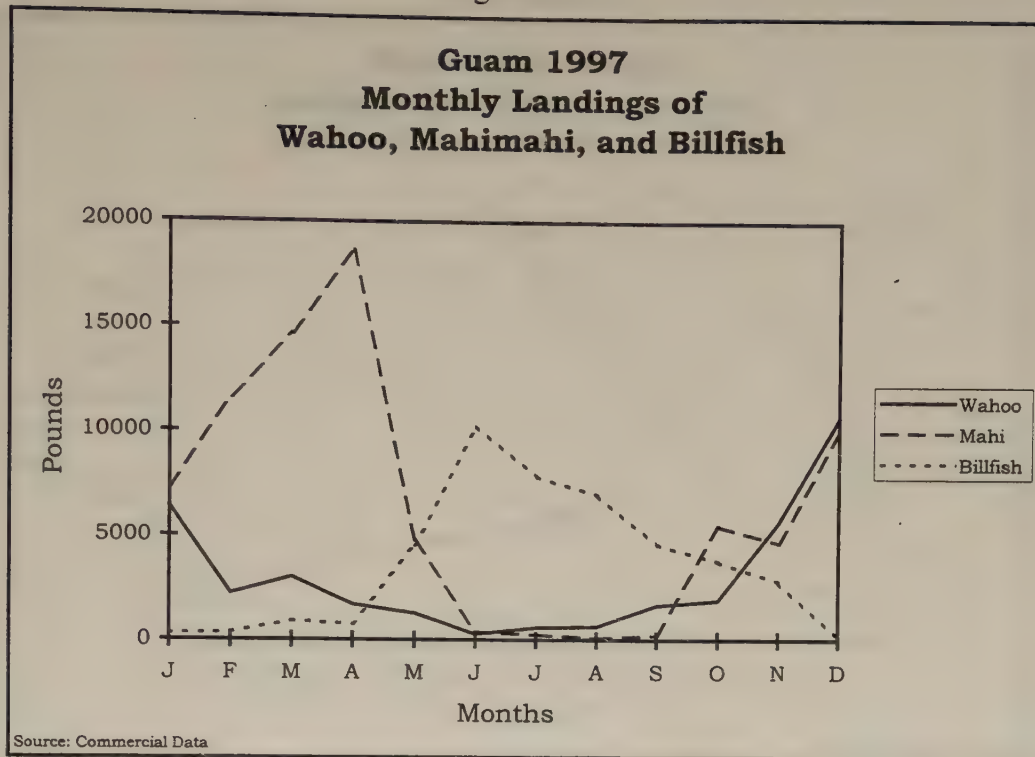


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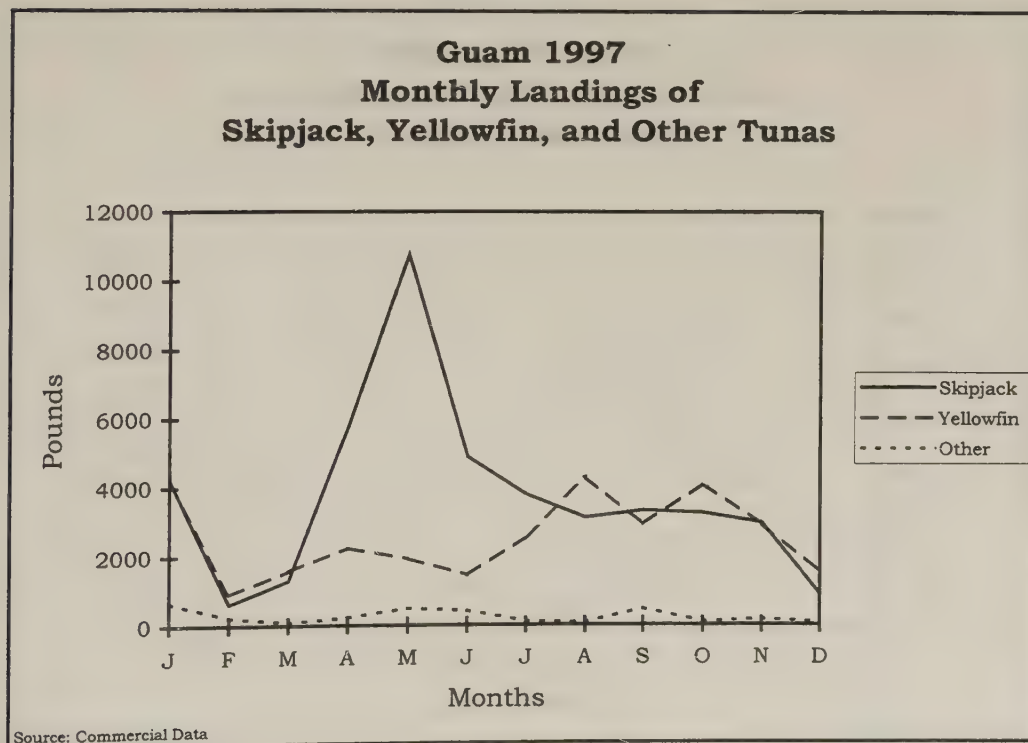


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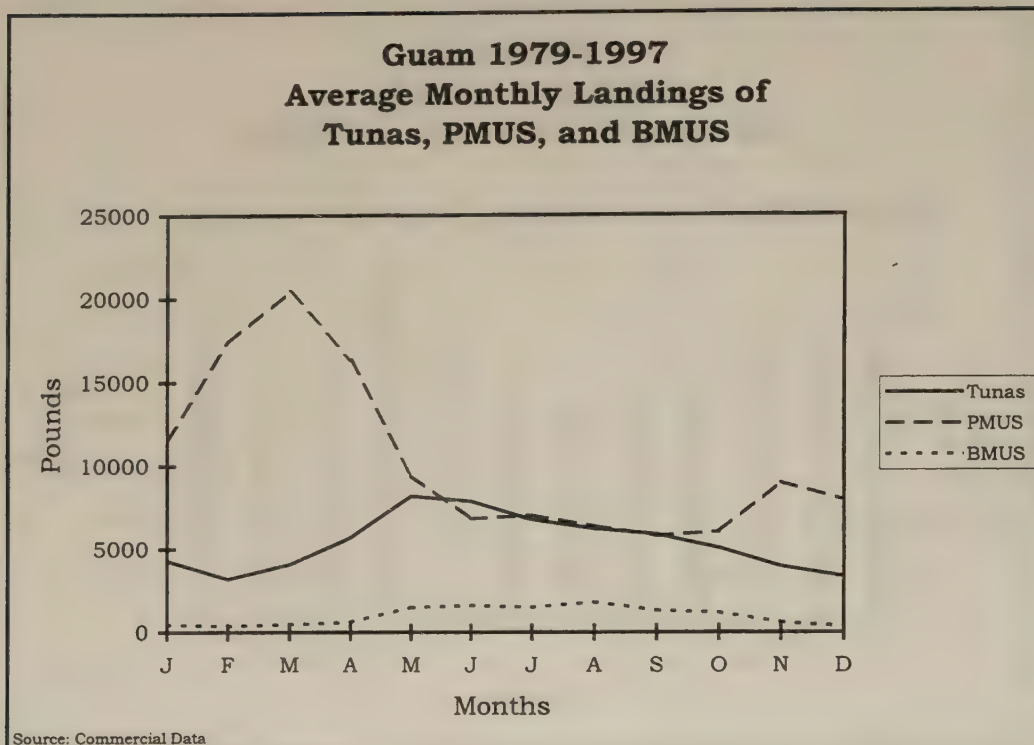


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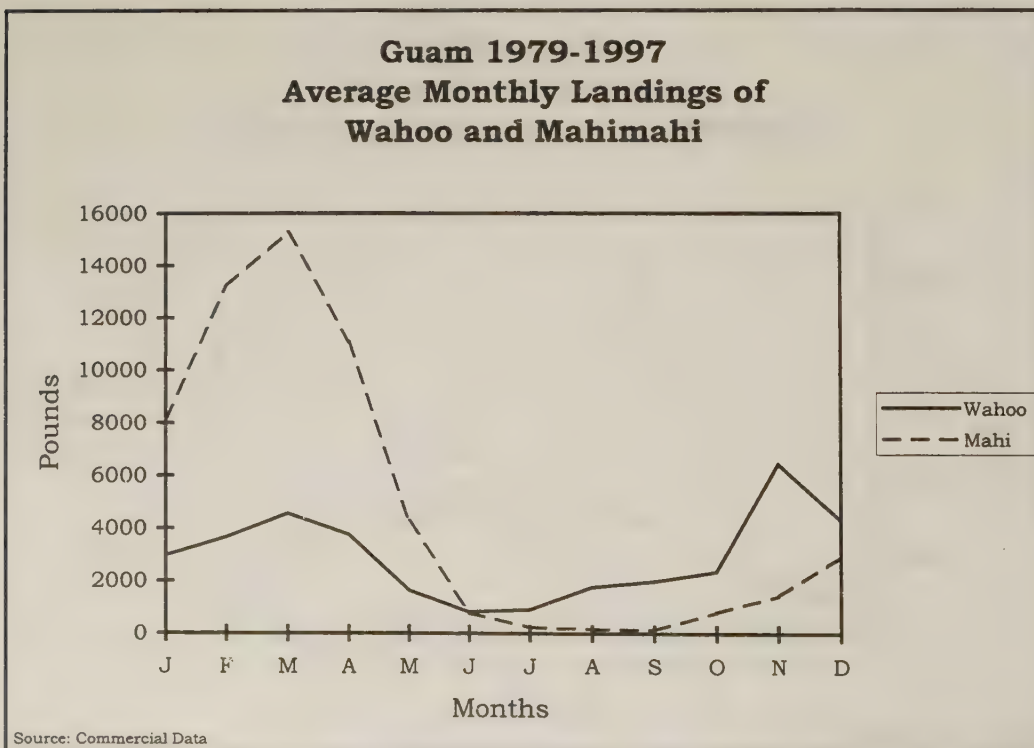


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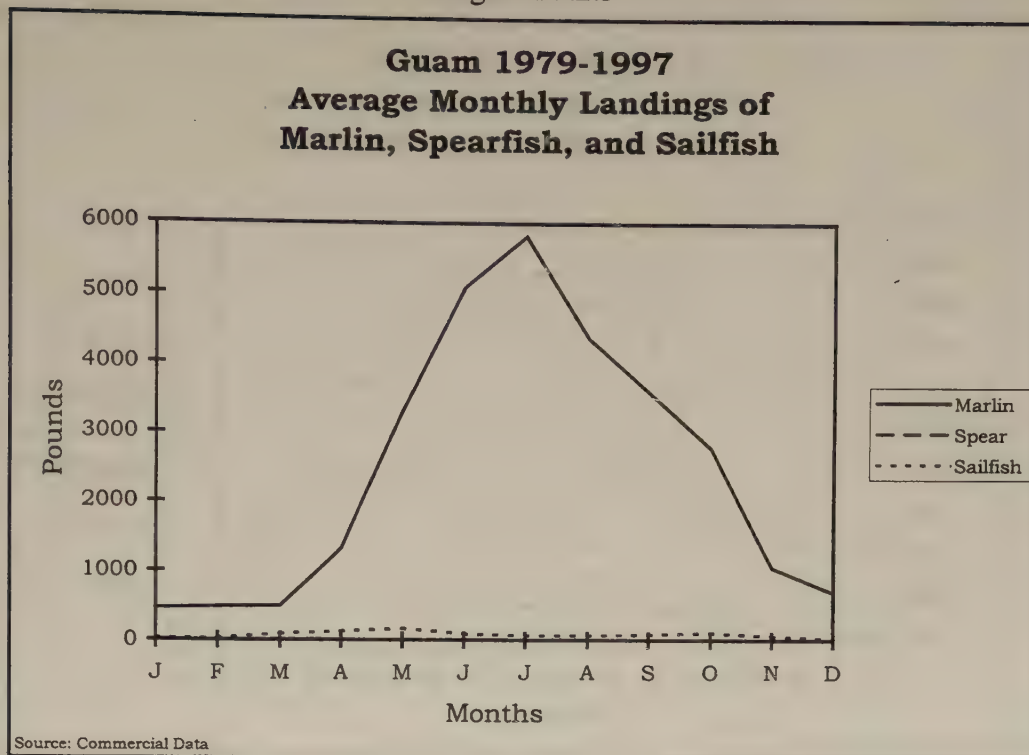


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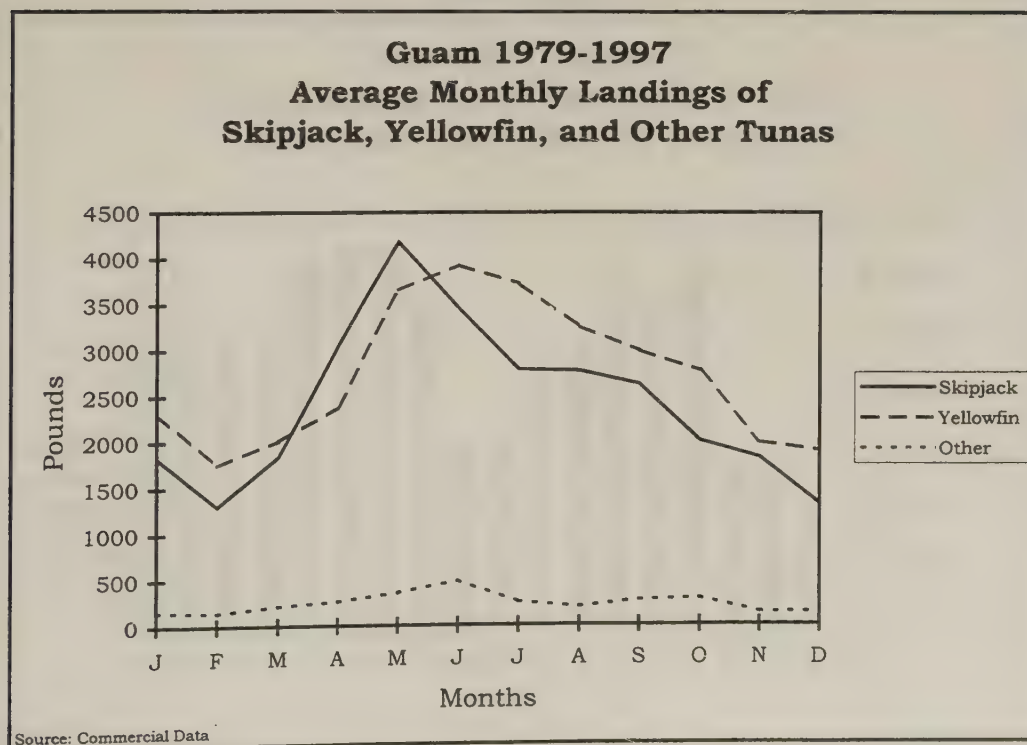


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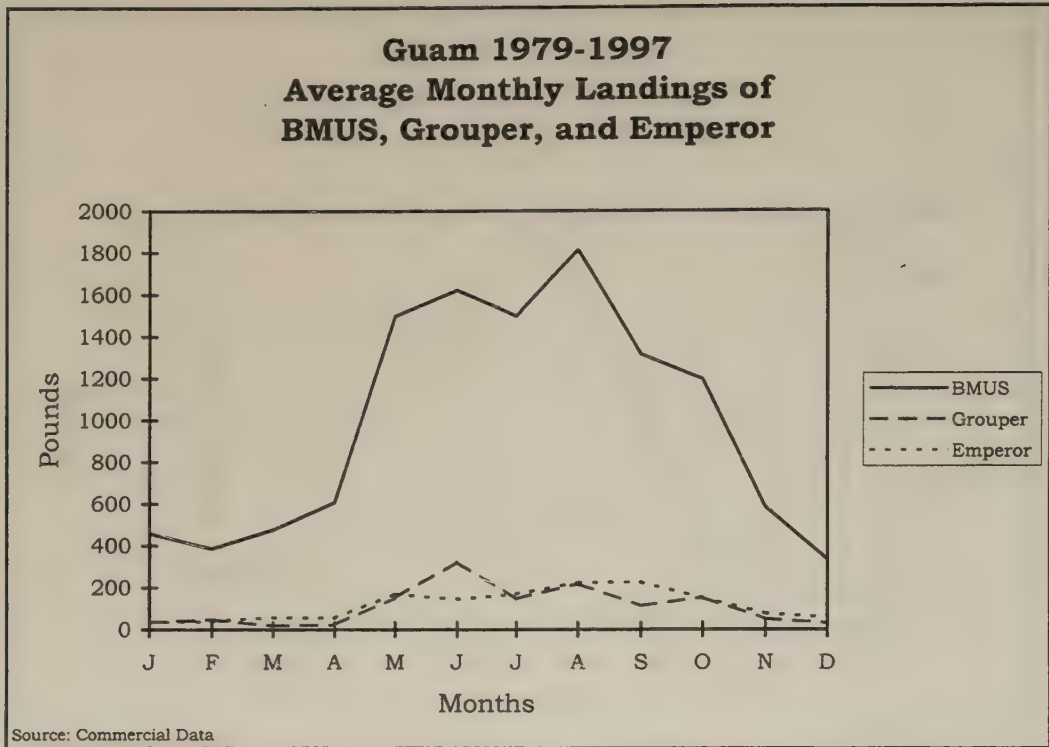


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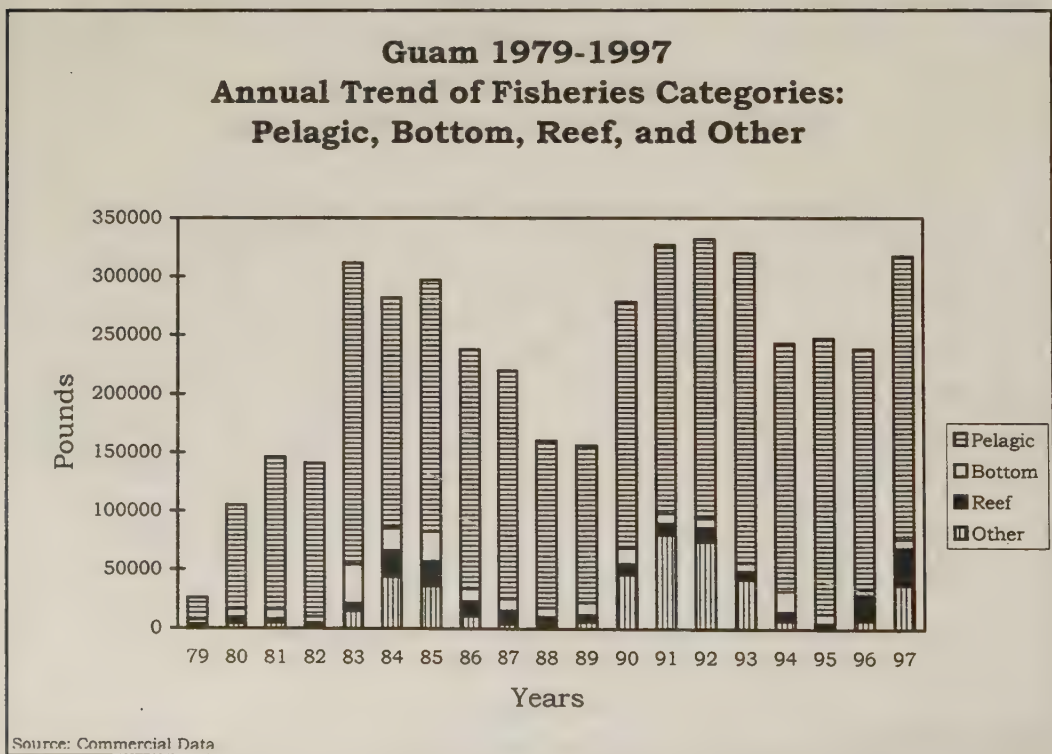


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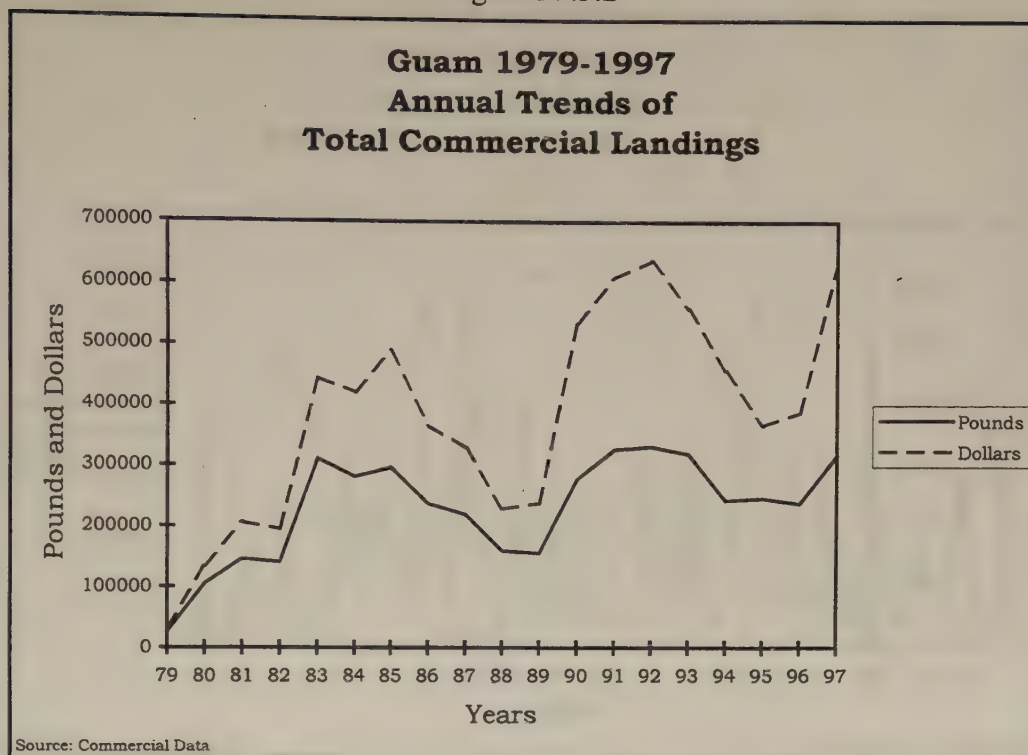


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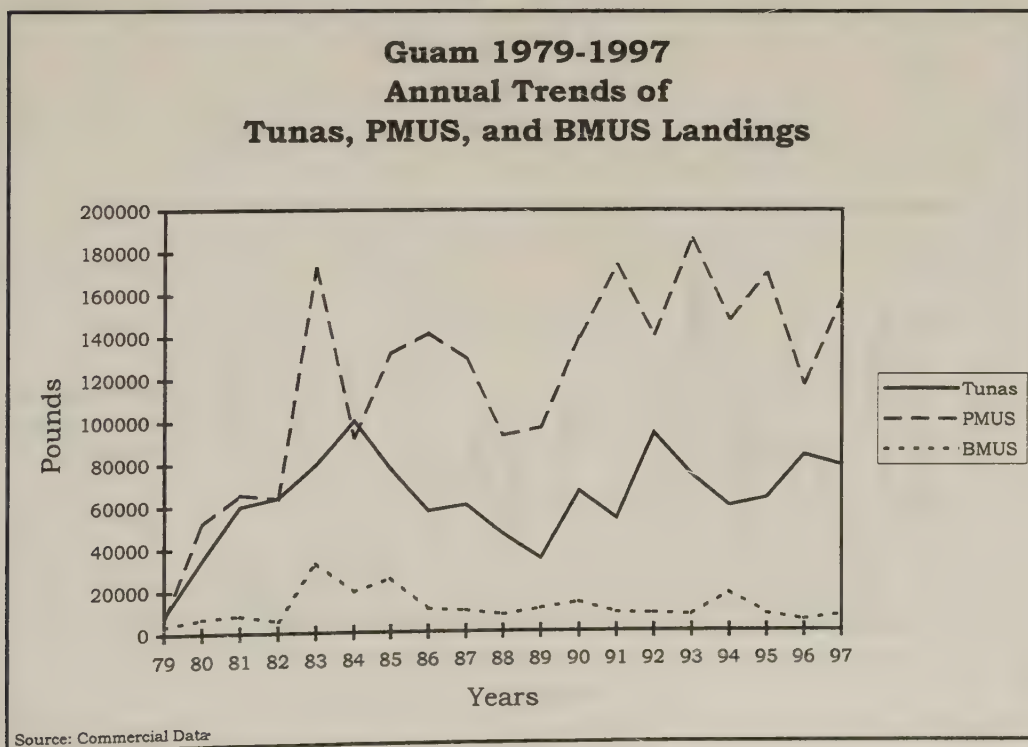


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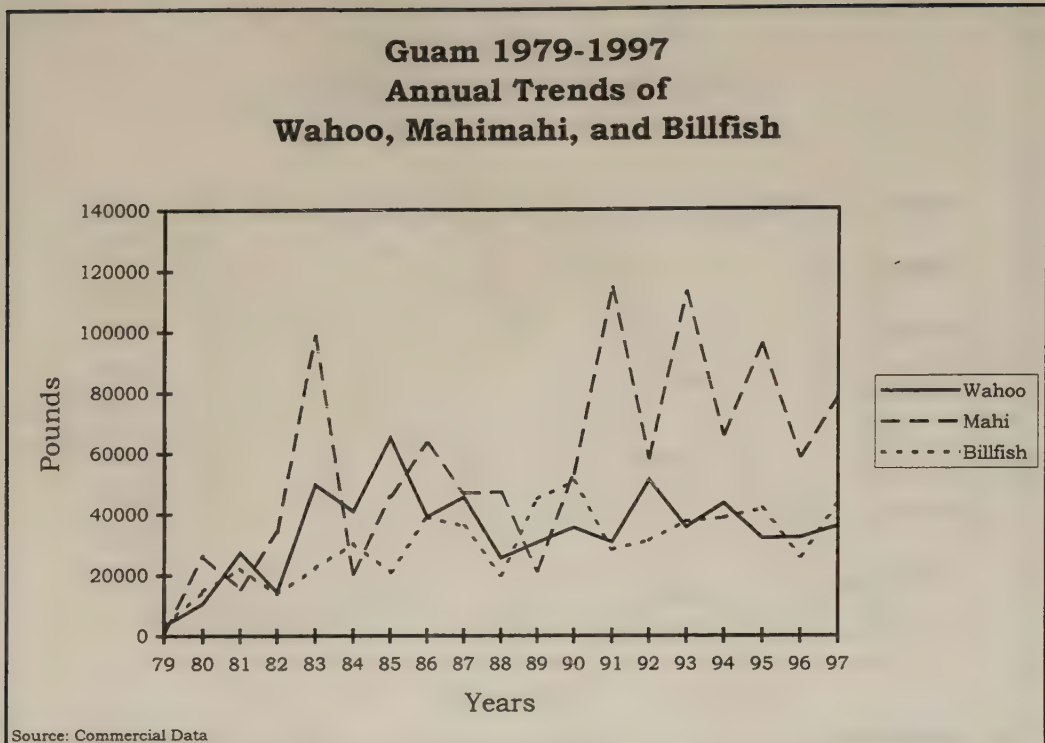


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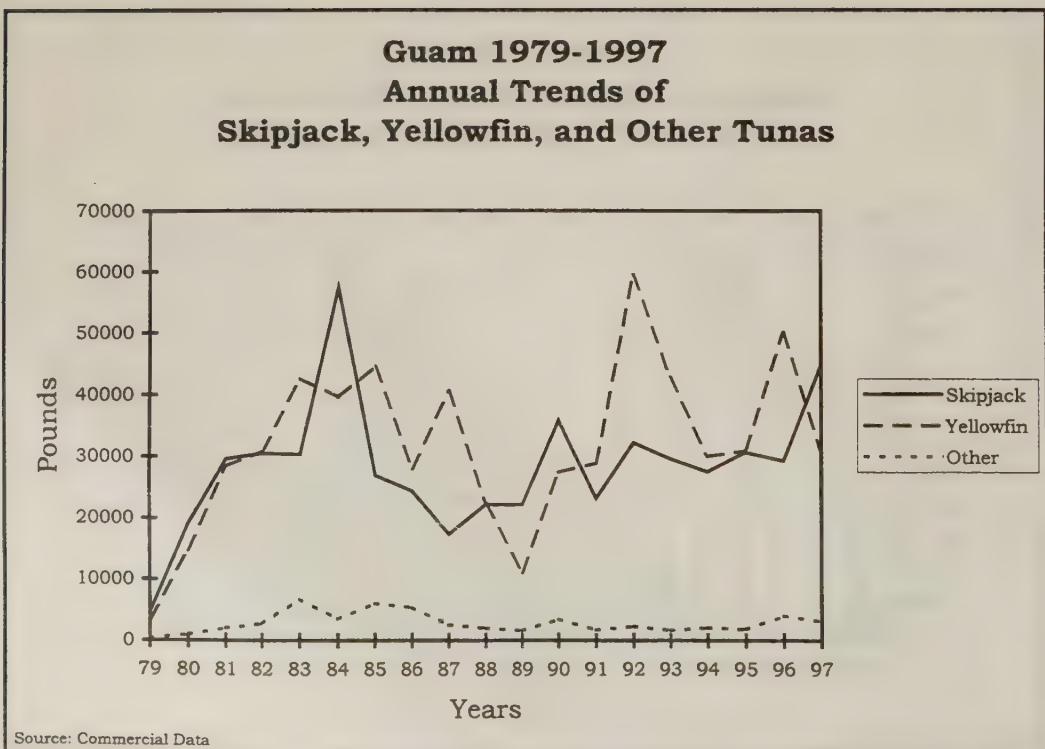


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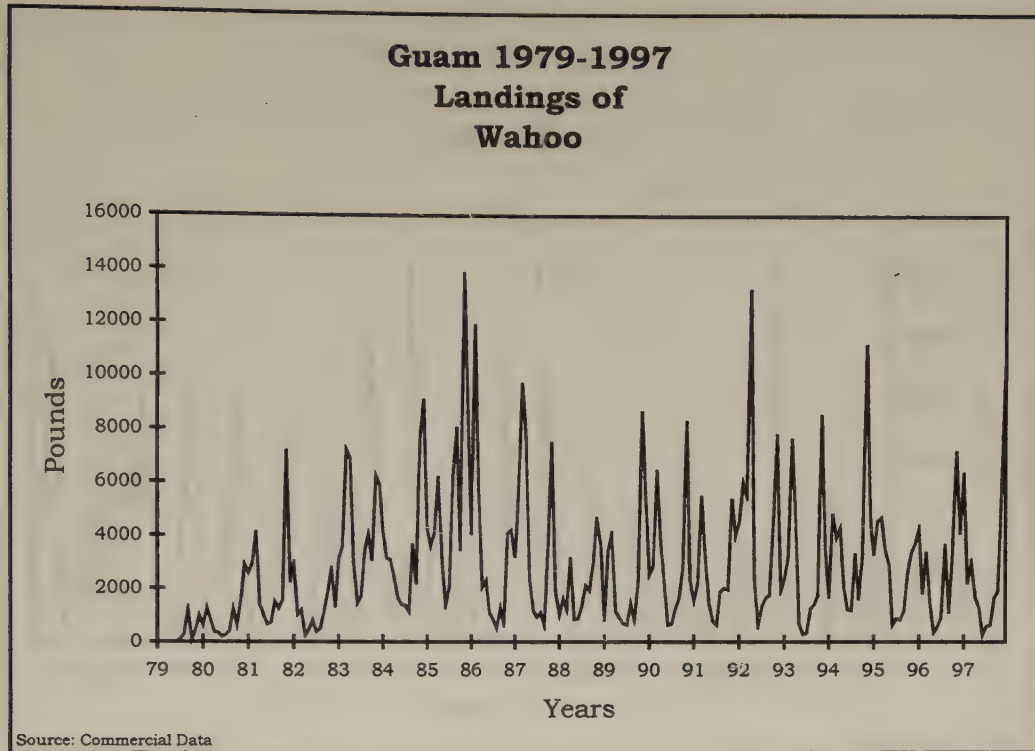


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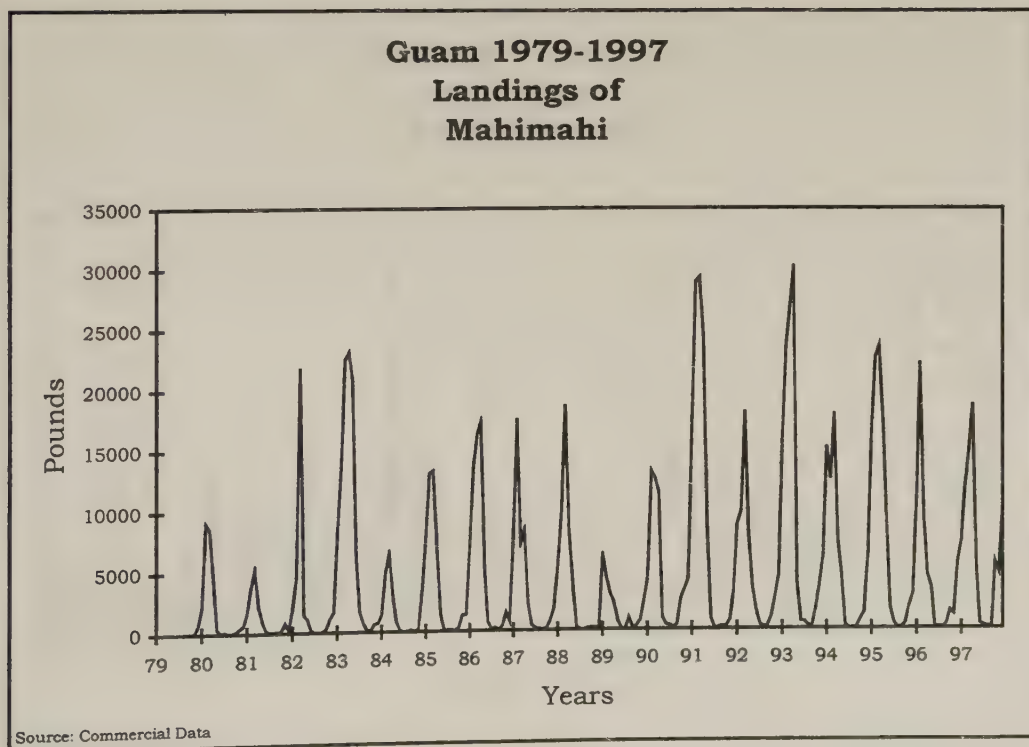


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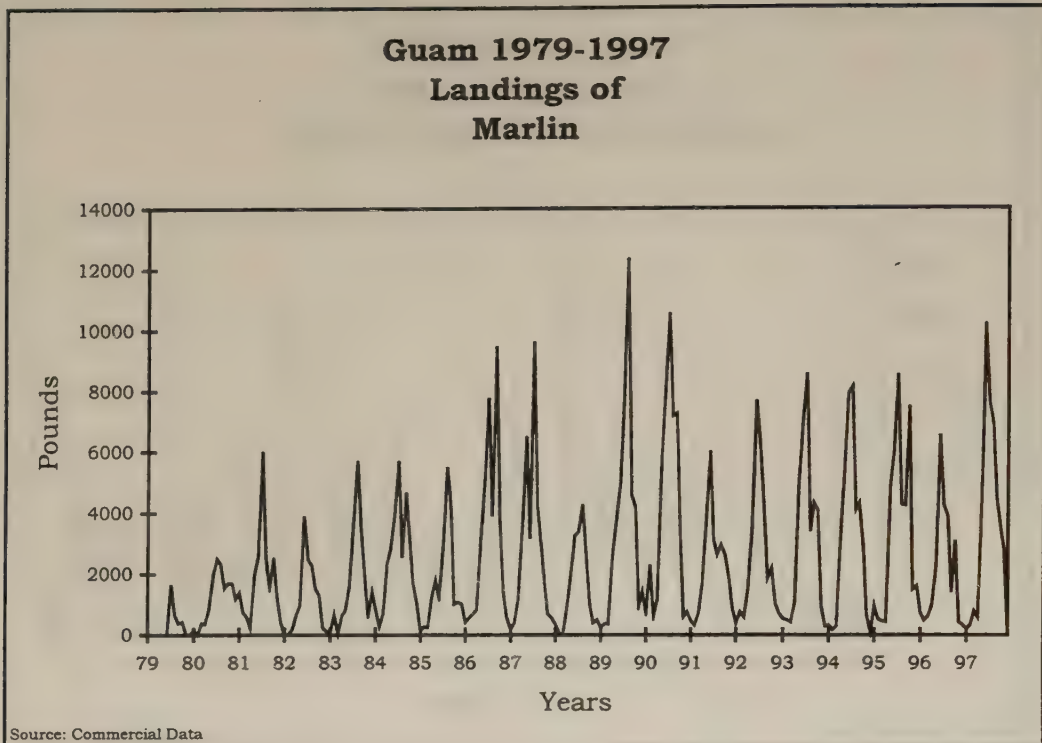


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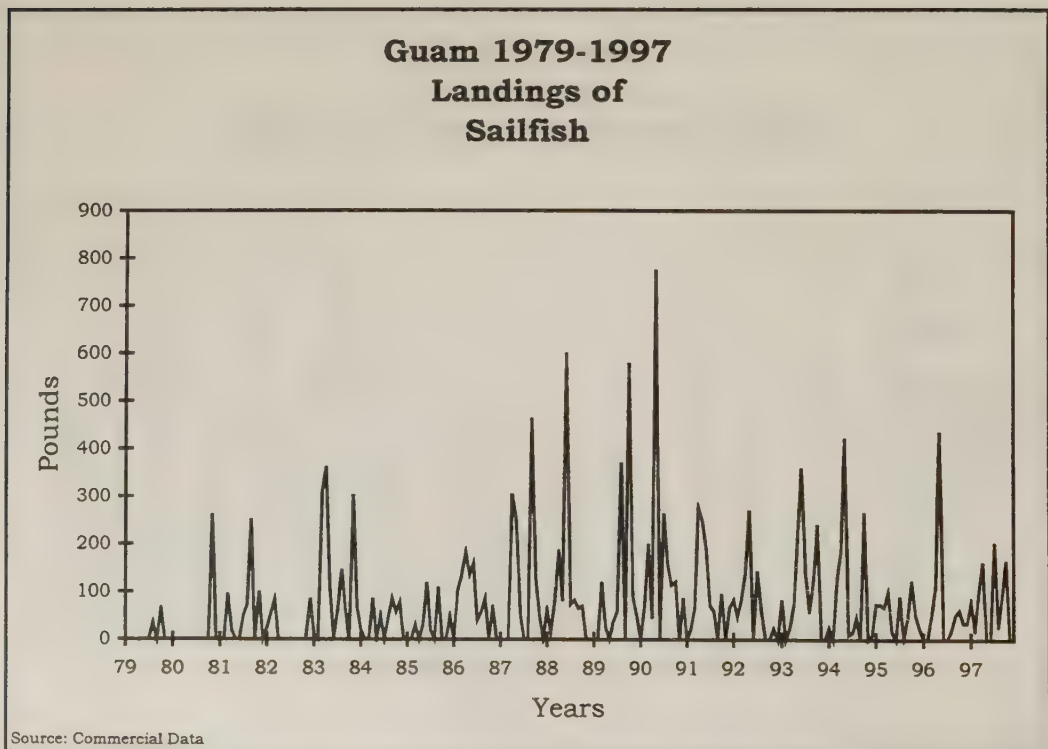


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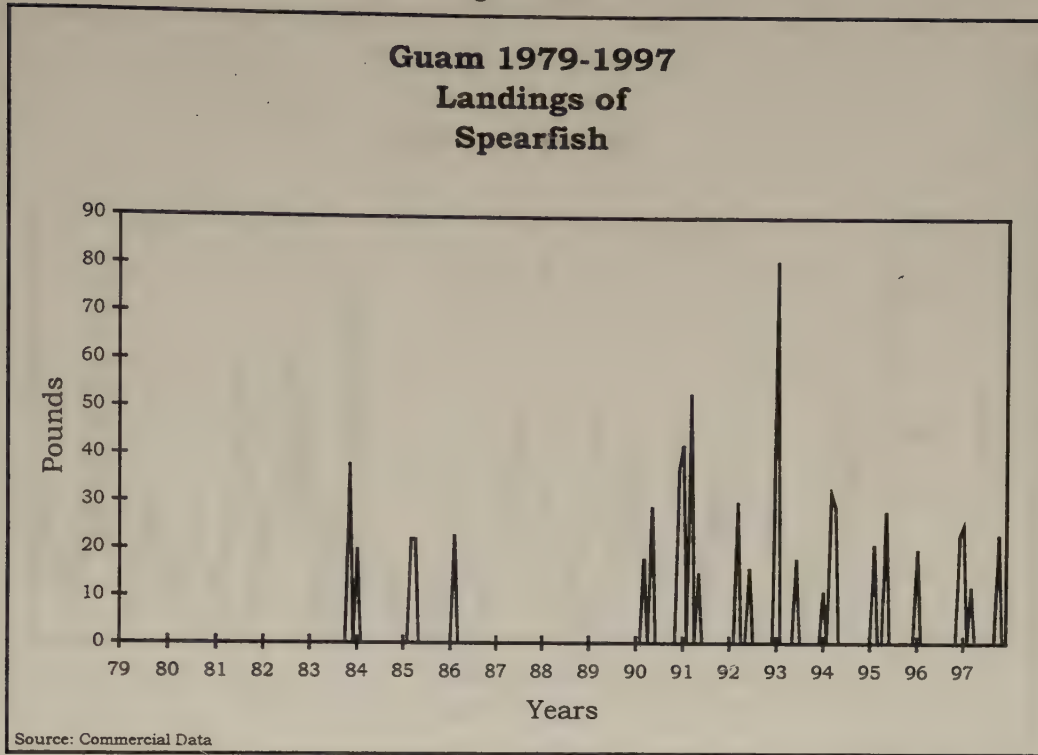


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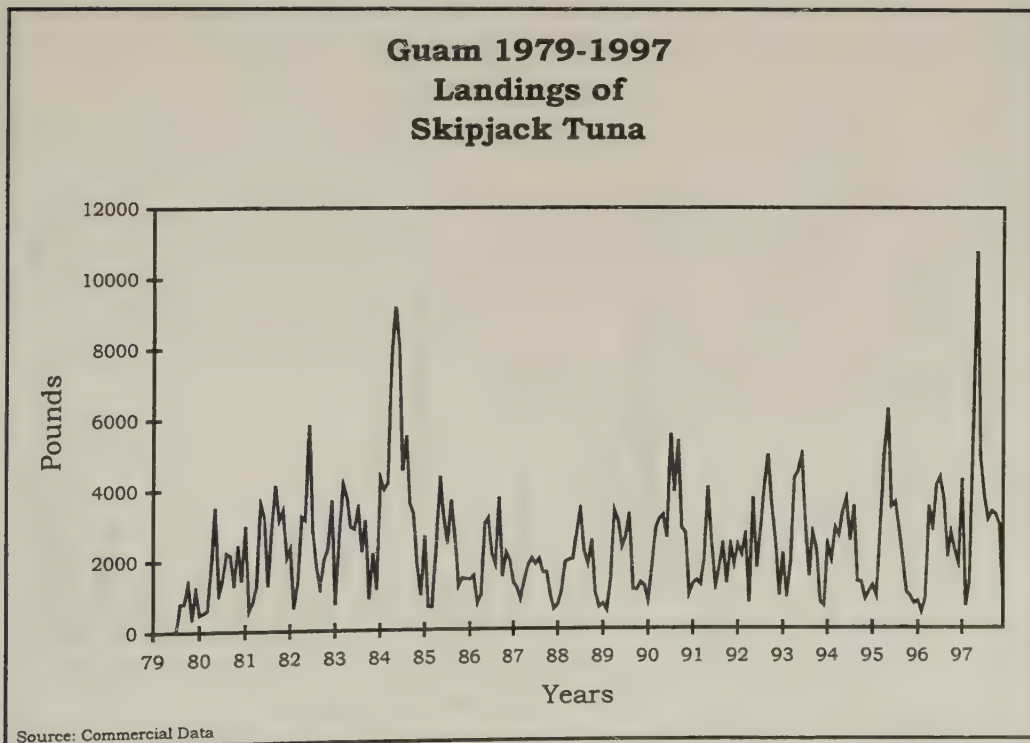


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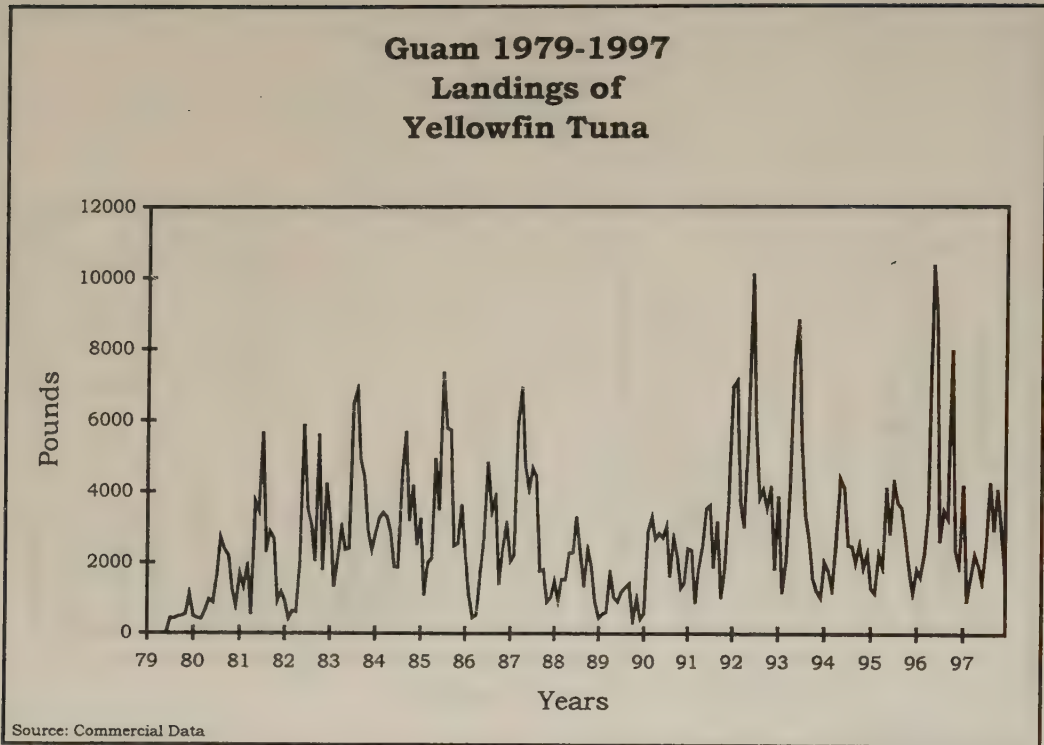


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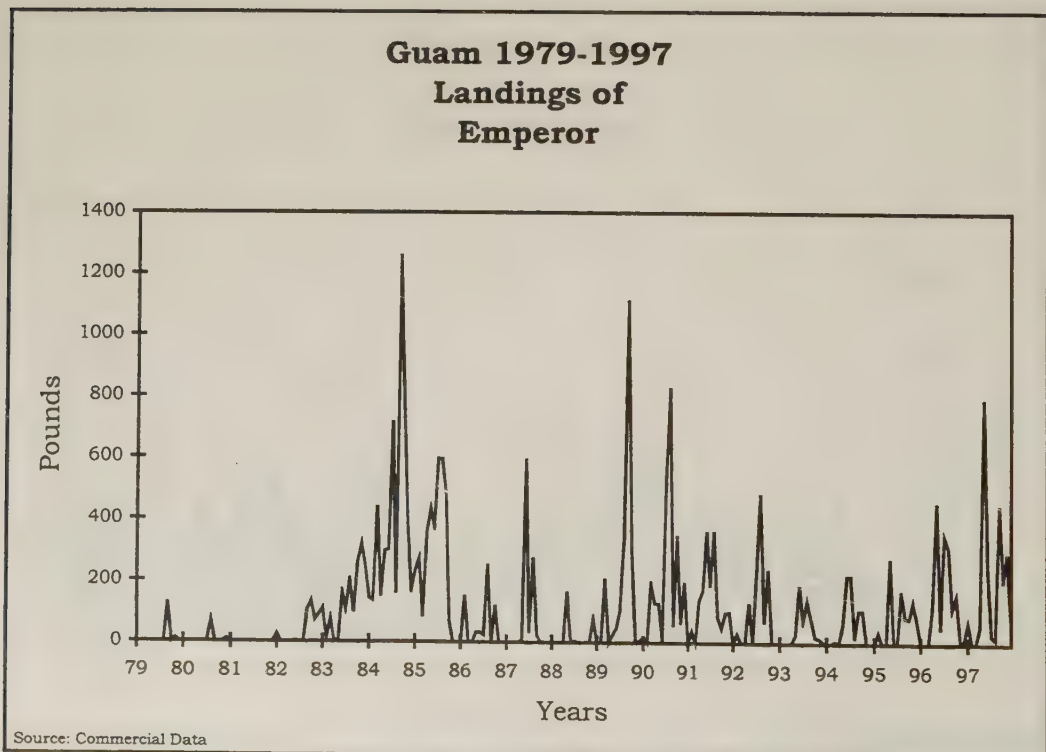
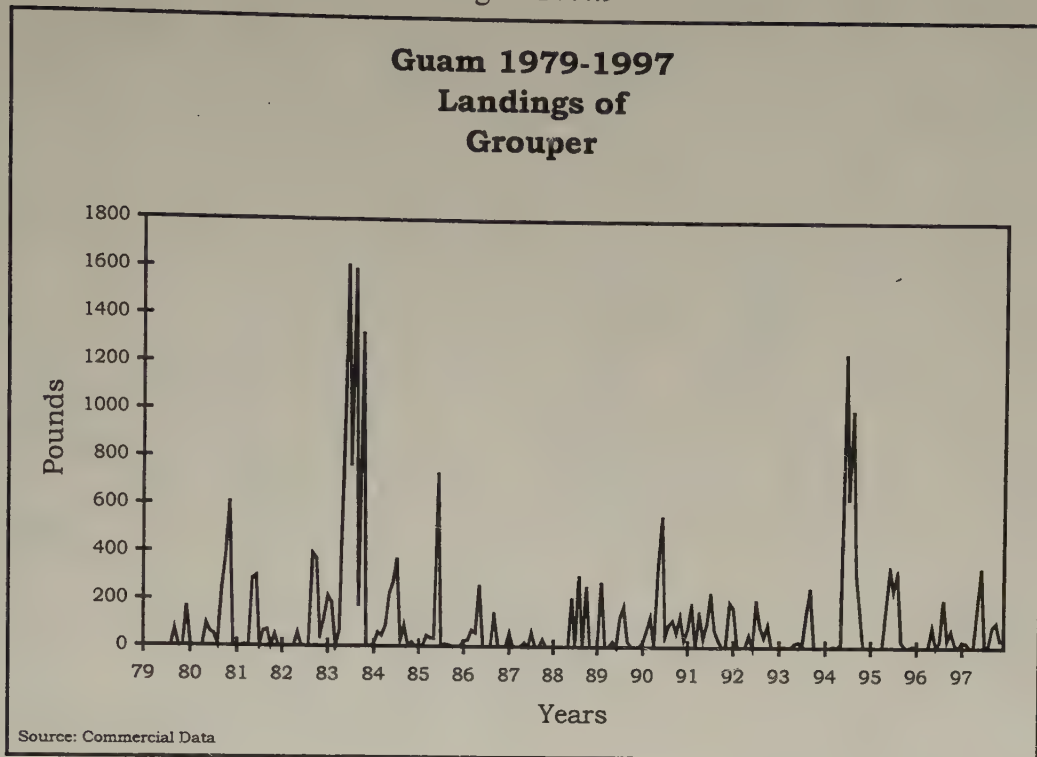


Figure IV.4.9





HAWAII

Fishery Statistics 1997

STATE OF HAWAII 1997 FISHERY STATISTICS

Compiled by
Division of Aquatic Resources
and the
Western Pacific Fishery Information Network

July 1999

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STATE OF HAWAII 1997 FISHERY STATISTICS

INTRODUCTION

The Hawaiian Archipelago stretches northwestward over 1,500 miles, from about lat. 19° N and long. 155° W to about lat. 28° N and long. 178° W. The seven main Hawaiian Islands -- Hawaii, Maui, Lanai, Molokai, Oahu, Kauai, and Niihau -- comprise over 99% of the total land area and have virtually all of the State's population of over 1 million residents. In 1997, over 80% of the State's recorded commercial catch was landed on Oahu, about 13% on Hawaii, 4% on Kauai, 2% on Maui, and less than 1% on other islands. The Department of Land and Natural Resources' Division of Aquatic Resources (DAR) has been collecting statistics on the commercial fisheries of Hawaii for nearly 50 years.

The fisheries of the State of Hawaii are quite diverse and vary from hand harvesting algae from shore to large-vessel fisheries, such as longlining and lobster fishing. The major fisheries include tuna fishing using several methods, longlining for broadbill swordfish, lobster trapping, hook-and-line bottom fishing for the grouper-snapper-jack complex, net fishing for such species as the bigeye scad, and trolling for such pelagic species as marlin, wahoo, and mahimahi. Of the approximately 18,000 vessels in Hawaii, about 90% are pleasure boats, 5% commercial fishing or charter boats, and the remainder are registered in other categories. The pleasure category includes boats used for recreational, subsistence, and part-time commercial fishing as well as boats not typically used for fishing such as sailboats. To fish commercially (i.e., sell catches or provide charter fishing services) in Hawaii requires purchasing a commercial marine fishing license. In 1997, there were about 4,200 licensed commercial fishermen required to submit monthly reports to DAR. Substantial subsistence and recreational fisheries, which are primarily small boat, one-day fisheries, also exist. Summary 1997 data provided in this document were created from licensed commercial fishermen reports processed by DAR as of December 1998, and is believed to represent about 99% of what may eventually be submitted and processed.

DATA COLLECTING SYSTEM

The major data collecting system used by DAR is based on a State law that requires commercial fishermen to report their catches on a monthly basis. Several different data collection forms are used because of the diversity of fishing methods and a desire to obtain specific information on some of these methods. The vast majority of commercial fishermen use the standard C-3 Fish Catch Report, which is submitted each month and requires the following information for each trip taken:

Fisherman's name and commercial license number	Number caught
Boat's name and its registration number	Pounds caught
Date	Pounds sold
Area or buoy fished	Value of sales
Type of gear used	Port of landing
Species caught	

The other forms used to report commercial catches are for specific fisheries; these include the C-4 Aku Catch Report for the pole-and-line or bait-boat fishery for skipjack tuna, the C-5 Flagline Catch Report for the longline fishery for tunas and other pelagic species, the Albacore Trolling Trip Report, and the Pond Operator's Monthly Fish Report for operators of saltwater fish ponds. All of the forms request basic catch and revenue information by species, plus additional fishery-specific information such as effort and bait.

Commercial collectors of tropical marine fish are required to have an aquarium permit in addition to their commercial marine license and are required to report monthly on the C-6 Aquarium Fish Catch Report. However, the aquarium fish catch is not included in the statistics provided in this document.

Some of the advantages of a mandatory fisherman-reporting system are its relative efficiency, low cost, the potential for excellent percent coverage, and the amount of information that can be collected directly from the fishermen. The major disadvantage is that it places the responsibility for data recording and timely data submission on the fishermen. The assumption is made, therefore, that the data submitted by the fishermen are complete and accurate. The DAR is continuing its efforts to improve the quality of data and decrease the time delays in receiving and processing the data. No real measurement is available for what percent of the total commercial catch is actually reported to DAR, but estimates have ranged from about 10% to over 99%, depending on the species and fishery. The overall percent coverage was probably over 80% in 1997.

DATA PROCESSING SYSTEM

When the various data reporting forms are received by DAR, they undergo a series of coding and editing procedures before being sent out for keypunching. Forms that fail the initial editing by DAR staff are returned to the fishermen for correction and resubmission or the fisherman may be contacted by telephone to resolve minor problems. Notices are sent to fishermen who fall more than a few months behind in the submission of their reports. Once the data are keypunched, computer generated reports are used by DAR staff to verify and correct errors in the database. When the database is considered to be reasonably complete and error free, it is ready for production of a variety of summary catch reports.

Since this system is based on submission of data from fishermen, late reporting has always been a problem. The DAR has tried to include as much information as possible in its published monthly and annual reports. Before about 1982, statistics from fishermen's reports received after the generation of the computerized monthly summary reports were hand tallied and added to the final version of the reports before they were published. However, because of processing restrictions or complications, the original databases were not updated. Since 1982, additional editing and data correction procedures have been implemented, making database updates possible. The DAR has made significant progress recently in reducing late reporting by fishermen and the time lag before data are available. Data presented in this report series for 1979-86 were based on published monthly DAR reports and differ from final annual data base totals by some small percent (refer to Volumes I and III for details). Beginning with 1987, data

were processed directly from the annual detailed databases received from DAR after enough time had passed to ensure that a high percentage of the required fisherman had submitted all reports.

DATA REPORTING SYSTEM

Recorded in DAR's monthly landings reports are more than 150 marine species and species groups, many of which are insignificant in the total catch. To help reduce the volume of this document and improve the usability of the tables, WPacFIN staff combined some of the less important species, reorganized the order of presentation, created a new species coding system, and translated all records in the database. The new coding system has 100 species and species groups based on flexible ecological and phylogenetic criteria. All of the commercially important pelagic and bottom fish species or unique species groups have individual codes and are reported separately. Marine pond catches are included in the species totals, but are less than 0.4% of the total landings for each year.

The monthly and annual reports included in this document contain the common name, weight in pounds, value rounded to the nearest dollar, and the average price per pound for each species. Also included is a separate annual report for commercial fishermen's landings that were not sold. Each monthly report contains a subtotal for the sum of all species for that month, and the December report contains the December subtotal and the annual total. Annual reports contain the total landings for each species and the total recorded landings for all species combined for the calendar year.

Four graphs of monthly landings are presented for 1997, and 26 trend and seasonality graphs, based on 1979-97 data, are also provided. The following species, species groups, and abbreviations are used in the tables and graphs of Hawaii's fishery statistics:

I. Pelagic Management Unit Species (PMUS)

Although the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pacific PMUS (PPMUS), this report series will continue to specify tunas as a separate category from the PPMUS. The PMUS category in this report includes:

Mahimahi (dolphin)	Wahoo
Blue marlin	Black marlin
Striped marlin	Shortnose spearfish
Sailfish	Broadbill swordfish
Sharks	Billfish (misc.)

II. Bottomfish Management Unit Species (BMUS)

Deep water jacks (misc.)	Amberjack
Pig-lipped ulua (jack)	White Ulua
Giant sea bass	Blue lined snapper
Ehu (red snapper)	Gindai (flower snapper)
Kalekale (pink snapper)	Lehi (silverjaw snapper)
Onaga (long tailed snapper)	Opakapaka (pink snapper)
Uku (gray snapper)	

III. Billfish

Billfish	Blue Marlin
Black Marlin	Striped Marlin
Shortnose spearfish	Sailfish
Broadbill swordfish	

IV. Tunas

Tunas (misc.)	Skipjack tuna
Yellowfin tuna	Albacore
Bigeye tuna	Kawakawa
Dogtooth tuna	

V. Other Tunas

All of the previous tunas excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagic Species

All PMUS and tuna species including the following:

Rainbow runner	Barracuda
Japanese mackerel	Frigate tuna
Ocean sunfish	Ocean moonfish

B. Bottom Fish

All BMUS plus the following:

Blue crevally
Paapaa ulua
Porgy

Dobe ulua
Blue spot grouper

C. Reef Fish

Reef jacks (misc.)
Trumpetfish
Mountain bass
Cardinalfish
Rudderfish
Damsel fish
Tipapia
Parrotfish
Surgeonfish-tangs
Triggerfish
Pufferfish

Squirrelfish
Scorpionfish
Bigeyes
Goatfish
Butterflyfish
Hawkfish
Wrasse
Gobies
Flounders
Filefish

D. Other

Miscellaneous
Eels
Mackerel scad (opelu)
Anchovy
Bonefish
Milkfish
Needlefish
Threadfin
Pomfret
Freshwater fish
Slipper lobster
Shrimp (freshwater)
Octopus
Limpets (saltwater)
Clams
Precious Corals
Sea cucumbers
Algae

Rays
Bigeye scad (akule)
Leatherback
Ten pounder
Herring-sardine
Flyingfish
Halfbeaks
Mullet
Snake mackerel
Spiny lobster
Crabs
Shrimp (saltwater)
Squid
Limpets (freshwater)
Stoney corals
Sea urchins
Sea turtles

Table V.1.1

Hawaii 1997 Annual Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	13,816	57,419	4.16
Sharks	58,178	58,006	1.00
Eels	829	670	0.81
Alfonsin	26	83	3.20
Bigeye scad (akule)	704,838	1,152,054	1.63
Mackerel scad	285,987	468,373	1.64
Leatherback	841	1,183	1.41
Ten pounder	374	474	1.27
Bonfish	3,812	5,092	1.34
Herring/sardine	20	50	2.50
Milkfish	985	1,445	1.47
Flying fish	3	3	1.08
Needlefish	190	228	1.20
Threadfin	2,094	10,835	5.17
Mullet	6,993	19,792	2.83
Pomfret	142,790	216,106	1.51
Snake mackerel	370	277	0.75
Jacks (misc)	35,987	72,180	2.01
Amberjack	416	574	1.38
Blue crevally	2,136	3,578	1.68
Pig-lipped ulua	55,064	81,524	1.48
Dobe ulua	190	269	1.41
Paapaa ulua	6,501	13,016	2.00
White ulua	7,264	7,583	1.04
Black ulua	766	1,242	1.62
Giant sea bass	68,539	214,696	3.13
Blue spot grouper	361	750	2.08
Snappers	3,300	10,586	3.21
Blue lined snapper	74,402	70,178	0.94
Ehu (red snapper)	38,516	147,823	3.84
Gindai (flower snapper)	7,027	19,015	2.71
Kalekale (pink snapper)	27,134	75,431	2.78
Lehi (silverjaw)	11,738	35,924	3.06
Onaga (red snapper)	119,483	639,503	5.35
Opakapaka (pink snapper)	245,318	1,097,535	4.47
Uku (gray snapper)	102,290	306,889	3.00
Porgy	2,086	5,006	2.40
Reef jacks	152	451	2.96
Squirrelfish	48,911	150,162	3.07
Trumpetfish	103	122	1.19
Scorpionfish	3,930	15,485	3.94
Mountain bass	4,302	11,165	2.60
Bigeyes	5,175	13,435	2.60
Cardinalfish	26	38	1.47
Goatfish	67,241	194,630	2.89

Table V.1.1 (Cont.)

Species	Pounds	Value	\$/lb
Rudderfish	6,783	8,229	1.21
Damselfish	1,910	3,498	1.83
Hawkfish	779	1,740	2.23
Tilapia	584	684	1.17
Wrasse	6,861	23,564	3.43
Parrotfish	33,575	78,393	2.33
Surgeon/tangs	80,760	110,341	1.37
Flounders	47	45	0.95
Triggerfish	37	115	3.10
Filefish	2,210	4,319	1.95
Rainbow runner	2,926	3,953	1.35
Mahimahi (dolphin)	902,542	1,649,170	1.83
Barracudas	28,229	24,524	0.87
Wahoo	628,368	1,261,683	2.01
Japanese mackerel	72	155	2.16
Tunas	47,832	214,421	4.48
Skipjack tuna	2,399,021	2,987,911	1.25
Yellowfin tuna	4,135,303	9,940,950	2.40
Albacore	3,198,685	3,782,123	1.18
Bigeye tuna	4,321,542	13,393,271	3.10
Kawakawa	6,236	7,386	1.18
Frigate tuna	29	33	1.12
Billfish	510	393	0.77
Broadbill swordfish	3,744,368	11,302,658	3.02
Blue marlin	1,409,490	1,326,334	0.94
Black marlin	13,660	19,810	1.45
Striped marlin	775,512	994,555	1.28
Shortnose spearfish	206,816	192,836	0.93
Sailfish	20,617	21,918	1.06
Ocean moonfish	640,520	742,256	1.16
Spiny lobster	53,324	731,526	13.72
Slipper lobster	46,016	440,665	9.58
Crabs	36,199	152,716	4.22
Shrimp (freshwater)	160	800	5.00
Shrimp (saltwater)	22,450	123,402	5.50
Octopus	17,235	48,524	2.82
Squid	4,227	6,935	1.64
Limpets (saltwater)	9,542	34,628	3.63
Limpets (freshwater)	11	33	3.00
Precious corals	415	10,394	25.05
Sea cucumbers	111	792	7.14
Algae	25,657	75,698	2.95
** TOTAL **	24,991,675	54,904,256	2.20

Table V.1.2

Hawaii 1997 Annual Reported Commercial Landings (not sold)

Species	Pounds
Miscellaneous	230
Sharks	9,810
Eels	53
Bigeye scad (akule)	73,171
Mackerel scad	16,489
Leatherback	133
Ten pounder	18
Bonefish	646
Milkfish	136
Flying fish	2
Needlefish	14
Halfbeaks	2
Threadfin	522
Mullet	628
Pomfret	1,387
Jacks (misc)	7,640
Amberjack	11,740
Blue crevally	523
Pig-lipped ulua	4,140
Paapaa ulua	428
White ulua	687
Black ulua	108
Giant sea bass	3,953
Blue spot grouper	68
Snappers	85
Blue lined snapper	10,998
Ehu (red snapper)	2,803
Gindai (flower snapper)	1,131
Kalekale (pink snapper)	2,354
Lehi (silverjaw)	599
Onaga (red snapper)	5,176
Opakapaka (pink snapper)	10,323
Uku (gray snapper)	5,015
Porgy	157
Reef jacks	5
Squirrelfish	3,596
Trumpetfish	24
Scorpionfish	238
Mountain bass	467
Bigeyes	408
Cardinalfish	2
Goatfish	5,650
Rudderfish	731
Butterflyfish	1
Damselfish	45

Table V.1.2 (Cont.)

Species	Pounds
Hawkfish	38
Tilapia	331
Wrasse	2,554
Parrotfish	2,096
Surgeon/tangs	4,087
Flounders	1
Triggerfish	218
Filefish	164
Rainbow runner	748
Mahimahi (dolphin)	64,555
Barracudas	1,912
Wahoo	69,926
Japanese mackerel	1
Tunas	10,957
Skipjack tuna	104,461
Yellowfin tuna	123,424
Albacore	18,886
Bigeye tuna	59,846
Kawakawa	2,562
Frigate tuna	70
Billfish	759
Broadbill swordfish	5,096
Blue marlin	150,771
Black marlin	1,138
Striped marlin	24,372
Shortnose spearfish	12,510
Sailfish	909
Ocean moonfish	5,055
Spiny lobster	1,795
Slipper lobster	84
Crabs	6,700
Shrimp (saltwater)	472
Octopus	6,985
Squid	1,503
Limpets (saltwater)	1,437
Precious corals	1,105
Sea urchins	16
Algae	940
** TOTAL **	870,820

Table V.1.3

Hawaii January 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	429	1,178	2.75
Sharks	3,135	3,383	1.08
Eels	58	.54	0.93
Alfonsin	7	28	3.93
Bigeye scad (akule)	34,798	69,901	2.01
Mackerel scad	17,210	28,471	1.65
Leatherback	22	33	1.51
Ten pounder	16	28	1.73
Bonefish	490	740	1.51
Threadfin	64	273	4.27
Mullet	202	609	3.01
Pomfret	5,630	13,225	2.35
Jacks (misc)	3,108	5,583	1.80
Amberjack	52	71	1.36
Blue crevally	107	174	1.63
Pig-lipped ulua	8,799	15,900	1.81
Paapaa ulua	839	2,091	2.49
White ulua	250	433	1.73
Black ulua	169	262	1.55
Giant sea bass	5,221	19,787	3.79
Blue spot grouper	18	37	2.06
Snappers	107	298	2.78
Blue lined snapper	5,089	4,655	0.91
Ehu (red snapper)	3,797	14,168	3.73
Gindai (flower snapper)	713	2,200	3.08
Kalekale (pink snapper)	3,436	9,082	2.64
Lehi (silverjaw)	1,571	4,895	3.12
Onaga (red snapper)	14,547	67,998	4.67
Opakapaka (pink snapper)	29,270	126,593	4.33
Uku (gray snapper)	8,213	26,792	3.26
Porgy	46	108	2.35
Squirrelfish	2,014	6,539	3.25
Trumpetfish	37	54	1.45
Scorpionfish	286	1,166	4.08
Mountain bass	224	632	2.82
Bigeyes	456	1,180	2.59
Goatfish	5,774	19,689	3.41
Rudderfish	493	674	1.37
Damselfish	196	347	1.77
Hawkfish	41	83	2.03
Tilapia	388	462	1.19
Wrasse	643	2,030	3.16
Parrotfish	2,261	4,870	2.15
Surgeon/tangs	4,682	6,095	1.30
Filefish	76	152	2.00
Rainbow runner	297	375	1.26

Table V.1.3 (Cont.)

Species	Pounds	Value	\$/lb
Mahimahi (dolphin)	25,806	62,893	2.44
Barracudas	656	1,033	1.57
Wahoo	14,720	49,840	3.39
Tunas	3,088	39,948	12.94
Skipjack tuna	40,288	56,541	1.40
Yellowfin tuna	171,100	437,244	2.56
Albacore	124,607	196,294	1.58
Bigeye tuna	399,173	1,374,616	3.44
Kawakawa	696	954	1.37
Broadbill swordfish	353,268	1,173,588	3.32
Blue marlin	28,148	34,460	1.22
Black marlin	260	331	1.27
Striped marlin	55,359	114,427	2.07
Shortnose spearfish	22,281	24,190	1.09
Ocean moonfish	23,075	46,088	2.00
Spiny lobster	316	2,597	8.22
Slipper lobster	451	5,387	11.95
Crabs	1,995	8,926	4.47
Shrimp (saltwater)	3,333	17,276	5.18
Octopus	919	2,526	2.75
Limpets (saltwater)	546	3,886	7.12
Limpets (freshwater)	11	33	3.00
Sea cucumbers	19	148	7.79
Algae	3,985	12,216	3.07
** SUBTOTAL **	1,439,381	4,128,839	2.87

Table V.1.4

Hawaii February 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	418	1,113	2.66
Sharks	4,795	5,174	1.08
Eels	11	11	1.02
Alfonsin	1	1	1.10
Bigeye scad (akule)	35,235	70,455	2.00
Mackerel scad	16,403	30,085	1.83
Leatherback	40	47	1.18
Ten pounder	5	4	0.80
Bonefish	744	797	1.07
Needlefish	6	5	0.83
Threadfin	34	150	4.41
Mullet	213	508	2.39
Pomfret	8,507	17,892	2.10
Jacks (misc)	3,102	6,942	2.24
Amberjack	70	110	1.57
Blue crevally	21	58	2.75
Pig-lipped ulua	6,545	12,208	1.87
Dobe ulua	15	37	2.43
Paapaa ulua	1,764	3,042	1.72
White ulua	248	371	1.50
Black ulua	212	352	1.66
Giant sea bass	5,414	18,819	3.48
Blue spot grouper	10	20	2.00
Snappers	94	338	3.59
Blue lined snapper	6,157	5,571	0.90
Ehu (red snapper)	3,111	11,988	3.85
Gindai (flower snapper)	496	1,554	3.13
Kalekale (pink snapper)	2,916	7,716	2.65
Lehi (silverjaw)	1,514	4,825	3.19
Onaga (red snapper)	9,924	49,477	4.99
Opakapaka (pink snapper)	27,162	120,081	4.42
Uku (gray snapper)	9,494	29,513	3.11
Porgy	36	95	2.64
Squirrelfish	1,702	5,496	3.23
Trumpetfish	11	16	1.47
Scorpionfish	208	1,111	5.34
Mountain bass	185	559	3.02
Bigeyes	611	1,580	2.59
Goatfish	5,984	16,269	2.72
Rudderfish	596	730	1.22
Damselfish	139	225	1.62
Hawkfish	29	64	2.21
Tilapia	195	220	1.13
Wrasse	516	1,706	3.31
Parrotfish	1,811	4,552	2.51
Surgeon/tangs	3,483	5,465	1.57

Table V.1.4 (Cont.)

Species	Pounds	Value	\$/lb
Filefish	56	105	1.87
Rainbow runner	335	472	1.41
Mahimahi (dolphin)	74,363	128,898	1.73
Barracudas	1,887	2,163	1.15
Wahoo	15,089	48,330	3.20
Japanese mackerel	38	87	2.30
Tunas	253	3,948	15.60
Skipjack tuna	38,873	55,583	1.43
Yellowfin tuna	218,114	577,436	2.65
Albacore	337,191	364,970	1.08
Bigeye tuna	515,476	1,705,548	3.31
Kawakawa	1,096	1,305	1.19
Broadbill swordfish	443,601	1,432,718	3.23
Blue marlin	33,757	43,448	1.29
Black marlin	723	1,013	1.40
Striped marlin	61,842	114,022	1.84
Shortnose spearfish	34,781	34,889	1.00
Sailfish	212	282	1.33
Ocean moonfish	34,778	54,168	1.56
Spiny lobster	437	4,253	9.73
Slipper lobster	101	1,215	12.03
Crabs	2,044	9,485	4.64
Shrimp (saltwater)	3,701	22,057	5.96
Octopus	424	1,232	2.91
Squid	3	16	5.40
Limpets (saltwater)	1,151	3,431	2.98
Algae	3,891	11,397	2.93
** SUBTOTAL **	1,984,404	5,059,827	2.55

Table V.1.5

Hawaii March 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	9,880	50,379	5.10
Sharks	4,413	6,988	1.58
Eels	116	.88	0.76
Bigeye scad (akule)	43,171	86,039	1.99
Mackerel scad	15,724	29,347	1.87
Leatherback	41	41	1.01
Ten pounder	65	80	1.23
Bonfish	176	207	1.18
Milkfish	29	46	1.57
Threadfin	351	1,630	4.65
Mullet	904	2,437	2.70
Pomfret	13,062	20,028	1.53
Jacks (misc)	3,671	9,261	2.52
Amberjack	15	23	1.50
Blue crevally	52	94	1.80
Pig-lipped ulua	5,891	9,219	1.56
Paapaa ulua	1,227	2,589	2.11
White ulua	1,632	1,218	0.75
Black ulua	82	96	1.17
Giant sea bass	6,649	20,450	3.08
Blue spot grouper	31	62	2.00
Snappers	294	1,040	3.54
Blue lined snapper	6,753	6,088	0.90
Ehu (red snapper)	2,823	11,062	3.92
Gindai (flower snapper)	785	2,152	2.74
Kalekale (pink snapper)	2,354	6,915	2.94
Lehi (silverjaw)	1,494	4,571	3.06
Onaga (red snapper)	5,753	33,947	5.90
Opakapaka (pink snapper)	28,105	130,940	4.66
Uku (gray snapper)	9,121	28,151	3.09
Porgy	169	401	2.37
Reef jacks	58	174	3.00
Squirrelfish	3,307	10,285	3.11
Scorpionfish	133	741	5.57
Mountain bass	389	963	2.48
Bigeyes	917	2,505	2.73
Cardinalfish	10	14	1.43
Goatfish	7,300	18,289	2.51
Rudderfish	775	654	0.84
Damselfish	268	452	1.69
Hawkfish	31	61	1.96
Wrasse	493	1,689	3.43
Parrotfish	2,673	6,520	2.44
Surgeon/tangs	5,666	8,309	1.47
Flounders	3	1	0.42
Filefish	228	457	2.00

Table V.1.5 (Cont.)

Species	Pounds	Value	\$/lb
Rainbow runner	259	387	1.49
Mahimahi (dolphin)	134,672	228,306	1.70
Barracudas	2,443	2,562	1.05
Wahoo	40,268	106,079	2.63
Tunas	3,338	53,904	16.15
Skipjack tuna	59,465	96,798	1.63
Yellowfin tuna	317,915	808,783	2.54
Albacore	311,529	399,828	1.28
Bigeye tuna	403,765	1,323,480	3.28
Kawakawa	1,173	1,239	1.06
Frigate tuna	6	6	1.05
Billfish	27	54	2.00
Broadbill swordfish	682,120	2,030,432	2.98
Blue marlin	34,343	52,695	1.53
Black marlin	236	329	1.39
Striped marlin	53,950	108,601	2.01
Shortnose spearfish	42,960	43,825	1.02
Sailfish	70	126	1.80
Ocean moonfish	47,003	64,249	1.37
Spiny lobster	565	5,575	9.87
Slipper lobster	1,047	12,800	12.23
Crabs	4,165	20,705	4.97
Shrimp (saltwater)	2,626	15,012	5.72
Octopus	490	1,486	3.03
Limpets (saltwater)	617	2,377	3.85
Algae	4,523	12,562	2.78
** SUBTOTAL **	2,336,659	5,908,905	2.53

Table V.1.6

Hawaii April 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	516	1,112	2.16
Sharks	6,960	7,819	1.12
Eels	35	.54	1.53
Bigeye scad (akule)	54,345	94,040	1.73
Mackerel scad	19,126	36,794	1.92
Leatherback	39	63	1.61
Ten pounder	23	24	1.05
Bonfish	418	528	1.26
Milkfish	8	10	1.25
Needlefish	13	12	0.90
Threadfin	454	2,649	5.84
Mullet	495	1,170	2.36
Pomfret	19,631	23,789	1.21
Jacks (misc)	3,839	8,542	2.22
Amberjack	35	18	0.50
Blue crevally	506	812	1.61
Pig-lipped ulua	7,246	7,495	1.03
Dobe ulua	4	4	0.95
Paapaa ulua	685	1,211	1.77
White ulua	540	645	1.20
Black ulua	105	110	1.05
Giant sea bass	6,893	17,548	2.55
Blue spot grouper	18	36	2.00
Snappers	286	1,012	3.54
Blue lined snapper	8,991	8,757	0.97
Ehu (red snapper)	3,634	12,778	3.52
Gindai (flower snapper)	560	1,447	2.58
Kalekale (pink snapper)	2,515	6,317	2.51
Lehi (silverjaw)	1,689	4,862	2.88
Onaga (red snapper)	10,768	48,799	4.53
Opakapaka (pink snapper)	30,917	121,824	3.94
Uku (gray snapper)	10,318	28,543	2.77
Porgy	179	457	2.55
Reef jacks	9	26	2.83
Squirrelfish	3,667	11,146	3.04
Trumpetfish	3	3	0.83
Scorpionfish	435	1,532	3.52
Mountain bass	1,294	2,877	2.22
Bigeyes	563	1,571	2.79
Goatfish	6,777	18,288	2.70
Rudderfish	807	1,051	1.30
Damselfish	189	342	1.81
Hawkfish	69	127	1.84
Wrasse	647	2,505	3.87
Parrotfish	2,923	6,693	2.29
Surgeon/tangs	7,661	11,293	1.47

Table V.1.6 (Cont.)

Species	Pounds	Value	\$/lb
Flounders	6	8	1.38
Filefish	767	1,498	1.95
Rainbow runner	162	218	1.34
Mahimahi (dolphin)	205,048	235,453	1.15
Barracudas	4,156	3,309	0.80
Wahoo	93,304	143,366	1.54
Tunas	2,919	28,069	9.62
Skipjack tuna	74,035	95,173	1.29
Yellowfin tuna	343,105	957,416	2.79
Albacore	464,012	569,833	1.23
Bigeye tuna	320,024	1,021,028	3.19
Kawakawa	613	677	1.10
Broadbill swordfish	724,725	1,984,097	2.74
Blue marlin	52,097	62,255	1.19
Black marlin	5,355	10,921	2.04
Striped marlin	94,780	125,314	1.32
Shortnose spearfish	24,734	17,365	0.70
Sailfish	4,826	4,480	0.93
Ocean moonfish	85,836	76,043	0.89
Spiny lobster	819	7,000	8.55
Slipper lobster	285	3,403	11.94
Crabs	5,143	24,364	4.74
Shrimp (freshwater)	35	175	5.00
Shrimp (saltwater)	4,219	21,208	5.03
Octopus	798	2,340	2.93
Squid	37	80	2.15
Limpets (saltwater)	461	2,128	4.62
Precious corals	340	8,514	25.04
Sea cucumbers	4	30	7.50
Algae	5,507	13,304	2.42
** SUBTOTAL **	2,734,987	5,915,799	2.16

Table V.1.7

Hawaii May 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	188	239	1.27
Sharks	4,927	3,512	0.71
Eels	59	54	0.92
Alfonsin	10	32	3.20
Bigeye scad (akule)	59,253	102,392	1.73
Mackerel scad	22,332	40,375	1.81
Leatherback	75	109	1.45
Ten pounder	2	3	1.45
Bonefish	159	201	1.27
Milkfish	84	51	0.60
Needlefish	5	7	1.42
Threadfin	623	3,642	5.85
Mullet	431	1,065	2.47
Pomfret	11,679	15,235	1.30
Snake mackerel	190	133	0.70
Jacks (misc)	1,784	3,297	1.85
Amberjack	14	21	1.50
Blue crevally	324	453	1.40
Pig-lipped ulua	4,669	4,470	0.96
Paapaa ulua	258	449	1.74
White ulua	279	217	0.78
Black ulua	38	58	1.53
Giant sea bass	5,022	15,814	3.15
Blue spot grouper	41	82	2.00
Snappers	326	1,142	3.50
Blue lined snapper	4,987	4,833	0.97
Ehu (red snapper)	3,008	11,282	3.75
Gindai (flower snapper)	657	1,399	2.13
Kalekale (pink snapper)	2,101	4,919	2.34
Lehi (silverjaw)	678	2,053	3.03
Onaga (red snapper)	6,551	33,436	5.10
Opakapaka (pink snapper)	20,935	87,511	4.18
Uku (gray snapper)	12,586	32,145	2.55
Porgy	399	857	2.15
Reef jacks	14	42	3.00
Squirrelfish	5,995	18,057	3.01
Trumpetfish	13	14	1.09
Scorpionfish	338	1,342	3.97
Mountain bass	295	660	2.24
Bigeyes	342	838	2.45
Cardinalfish	16	24	1.50
Goatfish	5,165	13,349	2.58
Rudderfish	948	969	1.02
Damselfish	334	641	1.92
Hawkfish	131	269	2.05
Wrasse	349	994	2.85

Table V.1.7 (Cont.)

Species	Pounds	Value	\$/lb
Parrotfish	3,402	8,525	2.51
Surgeon/tangs	7,410	10,110	1.36
Flounders	4	2	0.50
Filefish	358	709	1.98
Rainbow runner	184	200	1.09
Mahimahi (dolphin)	146,477	204,403	1.40
Barracudas	4,394	2,662	0.61
Wahoo	138,365	169,257	1.22
Tunas	7,307	8,423	1.15
Skipjack tuna	240,147	274,720	1.14
Yellowfin tuna	632,659	1,183,005	1.87
Albacore	473,046	440,346	0.93
Bigeye tuna	318,223	671,230	2.11
Kawakawa	301	321	1.07
Billfish	483	339	0.70
Broadbill swordfish	587,507	1,822,216	3.10
Blue marlin	107,449	96,611	0.90
Black marlin	3,425	2,950	0.86
Striped marlin	162,842	135,565	0.83
Shortnose spearfish	14,711	8,638	0.59
Sailfish	2,193	1,350	0.62
Ocean moonfish	45,765	47,106	1.03
Spiny lobster	15	83	5.50
Crabs	1,614	7,630	4.73
Shrimp (freshwater)	25	125	5.00
Shrimp (saltwater)	2,280	10,785	4.73
Octopus	623	2,080	3.34
Squid	20	90	4.50
Limpets (saltwater)	1,337	3,830	2.86
Precious corals	75	1,880	25.07
Sea cucumbers	11	84	7.68
Algae	5,250	11,612	2.21
** SUBTOTAL **	3,086,516	5,535,577	1.79

Table V.1.8

Hawaii June 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	186	217	1.17
Sharks	3,482	3,352	0.96
Eels	76	.52	0.69
Bigeye scad (akule)	78,390	122,135	1.56
Mackerel scad	13,996	25,508	1.82
Leatherback	84	132	1.57
Ten pounder	2	3	1.45
Bonefish	101	128	1.26
Milkfish	11	29	2.66
Needlefish	3	1	0.42
Mullet	175	485	2.77
Pomfret	9,169	12,708	1.39
Snake mackerel	180	144	0.80
Jacks (misc)	1,401	3,109	2.22
Amberjack	17	26	1.50
Blue crevally	47	53	1.12
Pig-lipped ulua	2,545	3,792	1.49
Paapaa ulua	66	100	1.51
White ulua	51	119	2.33
Black ulua	69	186	2.70
Giant sea bass	2,825	11,280	3.99
Blue spot grouper	24	61	2.54
Snappers	79	276	3.49
Blue lined snapper	3,795	3,446	0.91
Ehu (red snapper)	1,829	7,859	4.30
Gindai (flower snapper)	313	1,052	3.36
Kalekale (pink snapper)	1,289	3,749	2.91
Lehi (silverjaw)	295	745	2.53
Onaga (red snapper)	5,258	29,861	5.68
Opakapaka (pink snapper)	7,931	39,311	4.96
Uku (gray snapper)	8,846	23,926	2.70
Porgy	217	471	2.17
Squirrelfish	2,758	7,890	2.86
Trumpetfish	10	10	1.00
Scorpionfish	114	479	4.20
Mountain bass	142	452	3.19
Bigeyes	338	844	2.50
Goatfish	4,940	12,536	2.54
Rudderfish	457	673	1.47
Damselfish	165	293	1.77
Hawkfish	35	58	1.64
Wrasse	287	824	2.87
Parrotfish	1,910	4,544	2.38
Surgeon/tangs	5,746	7,482	1.30
Triggerfish	15	12	0.82
Filefish	325	650	2.00

Table V.1.8 (Cont.)

Species	Pounds	Value	\$/lb
Rainbow runner	154	171	1.11
Mahimahi (dolphin)	53,403	121,965	2.28
Barracudas	3,894	1,988	0.51
Wahoo	81,211	131,868	1.62
Tunas	75	111	1.48
Skipjack tuna	178,349	245,323	1.38
Yellowfin tuna	513,452	1,168,978	2.28
Albacore	527,543	577,768	1.10
Bigeye tuna	148,269	374,453	2.53
Kawakawa	413	463	1.12
Frigate tuna	5	7	1.44
Broadbill swordfish	459,085	1,500,683	3.27
Blue marlin	192,202	132,871	0.69
Black marlin	544	439	0.81
Striped marlin	141,638	88,247	0.62
Shortnose spearfish	16,247	10,929	0.67
Sailfish	1,691	962	0.57
Ocean moonfish	67,369	66,746	0.99
Crabs	633	2,557	4.04
Shrimp (freshwater)	20	100	5.00
Shrimp (saltwater)	3,202	15,581	4.87
Octopus	520	1,528	2.94
Squid	42	148	3.51
Limpets (saltwater)	1,442	3,505	2.43
Algae	450	2,767	6.15
** SUBTOTAL **	2,551,847	4,781,220	1.87

Table V.1.9

Hawaii July 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	862	950	1.10
Sharks	4,692	3,985	0.85
Eels	57	.53	0.93
Bigeye scad (akule)	73,632	131,976	1.79
Mackerel scad	13,292	25,910	1.95
Leatherback	130	167	1.29
Ten pounder	62	75	1.21
Bonefish	207	360	1.74
Milkfish	222	439	1.98
Flying fish	3	3	1.08
Needlefish	12	17	1.41
Threadfin	2	10	5.07
Mullet	590	1,816	3.08
Pomfret	14,785	22,626	1.53
Jacks (misc)	2,861	6,073	2.12
Blue crevally	139	330	2.37
Pig-lipped ulua	2,616	4,682	1.79
Paapaa ulua	309	598	1.94
White ulua	319	461	1.44
Giant sea bass	6,090	18,571	3.05
Blue spot grouper	17	34	1.98
Snappers	436	1,055	2.42
Blue lined snapper	6,166	6,341	1.03
Ehu (red snapper)	3,424	13,118	3.83
Gindai (flower snapper)	711	1,774	2.50
Kalekale (pink snapper)	1,288	4,103	3.19
Lehi (silverjaw)	445	1,311	2.95
Onaga (red snapper)	6,159	40,439	6.57
Opakapaka (pink snapper)	9,471	53,635	5.66
Uku (gray snapper)	10,093	33,018	3.27
Porgy	274	640	2.33
Reef jacks	27	82	3.03
Squirrelfish	5,367	17,048	3.18
Scorpionfish	248	842	3.39
Mountain bass	361	993	2.75
Bigeyes	294	733	2.49
Goatfish	4,430	12,816	2.89
Rudderfish	747	1,096	1.47
Damselfish	44	89	2.01
Hawkfish	95	339	3.56
Wrasse	417	954	2.29
Parrotfish	3,176	7,561	2.38
Surgeon/tangs	8,635	12,168	1.41
Flounders	8	8	0.94
Filefish	173	343	1.98
Rainbow runner	187	308	1.65

Table V.1.9 (Cont.)

Species	Pounds	Value	\$/lb
Mahimahi (dolphin)	51,186	122,164	2.39
Barracudas	3,702	2,380	0.64
Wahoo	74,642	143,401	1.92
Japanese mackerel	34	68	2.00
Tunas	17,080	36,793	2.15
Skipjack tuna	322,479	401,632	1.25
Yellowfin tuna	637,780	1,500,271	2.35
Albacore	377,651	405,579	1.07
Bigeye tuna	95,059	268,430	2.82
Kawakawa	455	515	1.13
Broadbill swordfish	279,373	797,455	2.85
Blue marlin	257,377	183,768	0.71
Black marlin	545	553	1.01
Striped marlin	24,378	26,030	1.07
Shortnose spearfish	6,805	6,856	1.01
Sailfish	2,773	2,875	1.04
Ocean moonfish	49,425	48,804	0.99
Spiny lobster	45,646	664,383	14.56
Slipper lobster	43,924	415,398	9.46
Crabs	81	432	5.34
Shrimp (freshwater)	45	225	5.00
Shrimp (saltwater)	800	5,520	6.90
Octopus	1,521	4,440	2.92
Squid	345	674	1.95
Limpets (saltwater)	451	1,952	4.33
Algae	434	2,660	6.13
** SUBTOTAL **	2,477,566	5,473,205	2.21

Table V.1.10

Hawaii August 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	337	452	1.34
Sharks	3,760	3,174	0.84
Eels	35	34	0.97
Bigeye scad (akule)	67,110	104,843	1.56
Mackerel scad	25,119	46,416	1.85
Leatherback	161	213	1.32
Ten pounder	38	50	1.31
Bonfish	211	294	1.39
Milkfish	176	241	1.37
Needlefish	106	132	1.25
Threadfin	28	90	3.23
Mullet	835	2,689	3.22
Pomfret	4,162	10,094	2.43
Jacks (misc)	3,316	6,076	1.83
Amberjack	17	26	1.50
Blue crevally	212	463	2.19
Pig-lipped ulua	2,511	4,504	1.79
Paapaa ulua	567	1,508	2.66
White ulua	2,151	1,393	0.65
Giant sea bass	4,862	16,225	3.34
Blue spot grouper	28	64	2.30
Snappers	342	1,100	3.22
Blue lined snapper	8,575	7,862	0.92
Ehu (red snapper)	4,058	14,171	3.49
Gindai (flower snapper)	512	1,351	2.64
Kalekale (pink snapper)	1,516	5,140	3.39
Lehi (silverjaw)	564	1,872	3.32
Onaga (red snapper)	8,770	49,255	5.62
Opakapaka (pink snapper)	11,108	62,405	5.62
Uku (gray snapper)	9,824	32,436	3.30
Porgy	215	621	2.89
Reef jacks	31	92	2.95
Squirrelfish	6,060	18,846	3.11
Trumpetfish	6	6	0.92
Scorpionfish	416	1,643	3.95
Mountain bass	263	860	3.27
Bigeyes	359	936	2.61
Goatfish	4,946	15,997	3.23
Rudderfish	414	503	1.21
Damselfish	65	107	1.64
Hawkfish	62	109	1.76
Wrasse	820	2,814	3.43
Parrotfish	3,377	8,135	2.41
Surgeon/tangs	7,372	9,876	1.34
Flounders	3	3	1.00
Triggerfish	11	5	0.48

Table V.1.10 (Cont.)

Species	Pounds	Value	\$/lb
Filefish	64	135	2.11
Rainbow runner	395	544	1.38
Mahimahi (dolphin)	28,212	80,481	2.85
Barracudas	2,021	1,885	0.93
Wahoo	49,365	124,885	2.53
Tunas	599	978	1.63
Skipjack tuna	584,284	542,298	0.93
Yellowfin tuna	530,781	1,366,355	2.57
Albacore	270,931	348,800	1.29
Bigeye tuna	59,349	187,259	3.16
Kawakawa	250	290	1.16
Frigate tuna	18	19	1.06
Broadbill swordfish	45,776	151,258	3.30
Blue marlin	203,817	170,084	0.83
Black marlin	304	204	0.67
Striped marlin	9,227	12,513	1.36
Shortnose spearfish	5,249	6,592	1.26
Sailfish	2,310	3,084	1.34
Ocean moonfish	29,747	42,618	1.43
Spiny lobster	36	228	6.33
Crabs	1,887	6,331	3.35
Shrimp (freshwater)	20	100	5.00
Shrimp (saltwater)	1,515	10,384	6.85
Octopus	2,952	8,541	2.89
Squid	943	2,259	2.40
Limpets (saltwater)	973	3,901	4.01
Algae	303	1,866	6.16
** SUBTOTAL **	2,016,759	3,509,021	1.74

Table V.1.11

Hawaii September 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	237	260	1.10
Sharks	4,145	4,121	0.99
Eels	207	136	0.66
Bigeye scad (akule)	68,782	108,484	1.58
Mackerel scad	31,299	52,341	1.67
Leatherback	37	46	1.24
Ten pounder	7	18	2.50
Bonefish	214	271	1.27
Milkfish	46	69	1.49
Needlefish	22	23	1.02
Threadfin	137	544	3.97
Mullet	1,011	2,545	2.52
Pomfret	7,108	12,116	1.70
Jacks (misc)	2,575	5,108	1.98
Amberjack	31	43	1.39
Blue crevally	156	295	1.89
Pig-lipped ulua	2,746	3,835	1.40
Paapaa ulua	111	246	2.22
White ulua	927	1,090	1.18
Black ulua	22	52	2.36
Giant sea bass	7,242	20,440	2.82
Blue spot grouper	14	32	2.27
Snappers	447	1,424	3.19
Blue lined snapper	9,347	9,275	0.99
Ehu (red snapper)	3,609	14,267	3.95
Gindai (flower snapper)	716	1,686	2.36
Kalekale (pink snapper)	2,139	7,473	3.49
Lehi (silverjaw)	488	1,451	2.97
Onaga (red snapper)	9,253	51,934	5.61
Opakapaka (pink snapper)	12,525	57,733	4.61
Uku (gray snapper)	3,606	11,308	3.14
Porgy	183	515	2.81
Squirrelfish	4,465	14,629	3.28
Trumpetfish	5	5	0.95
Scorpionfish	501	1,866	3.72
Mountain bass	277	751	2.71
Bigeyes	363	963	2.65
Goatfish	5,813	16,941	2.91
Rudderfish	455	603	1.32
Damselfish	88	184	2.09
Hawkfish	70	132	1.88
Wrasse	806	3,157	3.92
Parrotfish	4,236	9,431	2.23
Surgeon/tangs	6,702	9,685	1.45
Flounders	6	6	0.92
Filefish	24	48	2.02

Table V.1.11 (Cont.)

Species	Pounds	Value	\$/lb
Rainbow runner	226	317	1.40
Mahimahi (dolphin)	42,233	116,357	2.76
Barracudas	2,066	2,534	1.23
Wahoo	41,313	110,303	2.67
Tunas	4	6	1.43
Skipjack tuna	312,360	420,070	1.34
Yellowfin tuna	329,967	830,104	2.52
Albacore	164,753	215,259	1.31
Bigeye tuna	125,875	440,275	3.50
Kawakawa	361	396	1.10
Broadbill swordfish	19,733	47,605	2.41
Blue marlin	143,379	151,374	1.06
Black marlin	690	838	1.21
Striped marlin	15,091	28,499	1.89
Shortnose spearfish	6,155	6,875	1.12
Sailfish	2,530	3,581	1.42
Ocean moonfish	37,982	56,876	1.50
Spiny lobster	2,300	18,516	8.05
Slipper lobster	21	125	5.95
Crabs	3,720	15,839	4.26
Shrimp (freshwater)	15	75	5.00
Shrimp (saltwater)	8	28	3.50
Octopus	3,038	8,311	2.74
Squid	2,117	2,290	1.08
Limpets (saltwater)	694	2,969	4.28
Sea cucumbers	9	55	6.13
Algae	260	1,431	5.50
** SUBTOTAL **	1,450,100	2,908,486	2.01

Table V.1.12

Hawaii October 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	211	258	1.22
Sharks	5,078	4,792	0.94
Eels	32	36	1.11
Bigeye scad (akule)	30,389	52,550	1.73
Mackerel scad	43,230	62,342	1.44
Leatherback	65	103	1.58
Ten pounder	17	19	1.11
Bonefish	382	561	1.47
Herring/sardine	20	50	2.50
Milkfish	329	439	1.33
Needlefish	22	31	1.40
Threadfin	247	1,134	4.59
Mullet	1,612	4,918	3.05
Pomfret	12,031	17,469	1.45
Jacks (misc)	3,664	6,507	1.78
Amberjack	97	136	1.40
Blue crevally	387	579	1.50
Pig-lipped ulua	5,173	5,146	0.99
Paapaa ulua	110	225	2.05
White ulua	293	570	1.94
Black ulua	69	126	1.83
Giant sea bass	5,550	17,014	3.07
Blue spot grouper	89	179	2.01
Snappers	555	1,810	3.26
Blue lined snapper	6,546	5,821	0.89
Ehu (red snapper)	2,651	9,744	3.68
Gindai (flower snapper)	260	708	2.72
Kalekale (pink snapper)	2,470	7,206	2.92
Lehi (silverjaw)	326	1,022	3.13
Onaga (red snapper)	11,354	63,657	5.61
Opakapaka (pink snapper)	19,221	82,638	4.30
Uku (gray snapper)	3,597	11,785	3.28
Porgy	119	276	2.32
Reef jacks	11	31	2.77
Squirrelfish	5,201	15,715	3.02
Scorpionfish	516	1,925	3.73
Mountain bass	235	757	3.22
Bigeyes	360	905	2.51
Goatfish	4,915	17,159	3.49
Rudderfish	324	406	1.25
Damselfish	162	321	1.98
Hawkfish	29	53	1.84
Tilapia	1	2	1.50
Wrasse	848	2,680	3.16
Parrotfish	3,029	7,079	2.34
Surgeon/tangs	7,754	10,586	1.37

Table V.1.12 (Cont.)

Species	Pounds	Value	\$/lb
Flounders	5	5	0.95
Triggerfish	10	95	9.50
Filefish	31	57	1.84
Rainbow runner	242	309	1.28
Mahimahi (dolphin)	67,301	159,863	2.38
Barracudas	1,216	1,704	1.40
Wahoo	30,042	88,871	2.96
Tunas	12,622	38,127	3.02
Skipjack tuna	270,219	384,126	1.42
Yellowfin tuna	195,159	496,306	2.54
Albacore	101,654	180,768	1.78
Bigeye tuna	377,080	1,167,286	3.10
Kawakawa	491	645	1.31
Broadbill swordfish	5,469	20,017	3.66
Blue marlin	168,743	158,965	0.94
Black marlin	129	162	1.26
Striped marlin	42,699	57,120	1.34
Shortnose spearfish	8,881	8,955	1.01
Sailfish	2,571	3,170	1.23
Ocean moonfish	91,382	92,846	1.02
Spiny lobster	1,026	9,883	9.63
Slipper lobster	10	69	6.88
Crabs	6,966	25,255	3.63
Shrimp (saltwater)	44	166	3.76
Octopus	2,669	7,504	2.81
Squid	319	644	2.02
Limpets (saltwater)	324	1,440	4.44
Sea cucumbers	21	124	5.90
Algae	297	1,585	5.34
** SUBTOTAL **	1,567,203	3,323,533	2.12

Table V.1.13

Hawaii November 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	226	527	2.33
Sharks	5,270	4,067	0.77
Eels	111	.75	0.67
Alfonsin	8	23	2.81
Bigeye scad (akule)	82,836	112,058	1.35
Mackerel scad	38,009	50,272	1.32
Leatherback	123	211	1.71
Ten pounder	45	56	1.25
Bonfish	420	600	1.43
Milkfish	38	56	1.48
Needlefish	1	1	1.13
Threadfin	77	333	4.32
Mullet	498	1,467	2.95
Pomfret	16,416	19,960	1.22
Jacks (misc)	3,577	6,057	1.69
Amberjack	26	39	1.50
Blue crevally	131	188	1.44
Pig-lipped ulua	3,174	4,776	1.50
Dobe ulua	27	41	1.52
Paapaa ulua	291	592	2.03
White ulua	125	202	1.62
Giant sea bass	6,420	21,268	3.31
Blue spot grouper	54	107	1.98
Snappers	124	367	2.96
Blue lined snapper	4,352	3,892	0.89
Ehu (red snapper)	2,600	10,170	3.91
Gindai (flower snapper)	565	1,485	2.63
Kalekale (pink snapper)	1,827	4,638	2.54
Lehi (silverjaw)	852	2,776	3.26
Onaga (red snapper)	15,047	71,927	4.78
Opakapaka (pink snapper)	25,450	100,272	3.94
Uku (gray snapper)	7,393	19,659	2.66
Porgy	122	281	2.30
Squirrelfish	4,948	14,205	2.87
Trumpetfish	18	16	0.87
Scorpionfish	332	1,219	3.67
Mountain bass	199	576	2.89
Bigeyes	304	700	2.30
Goatfish	5,264	14,705	2.79
Rudderfish	457	557	1.22
Damselfish	200	390	1.95
Wrasse	453	1,841	4.06
Parrotfish	1,856	4,132	2.23
Surgeon/tangs	6,960	8,959	1.29
Flounders	9	11	1.19
Triggerfish	1	2	2.25

Table V.1.13 (Cont.)

Species	Pounds	Value	\$/lb
Filefish	44	39	0.88
Rainbow runner	407	554	1.36
Mahimahi (dolphin)	45,883	112,935	2.46
Barracudas	1,088	1,475	1.36
Wahoo	20,107	64,863	3.23
Tunas	80	80	1.00
Skipjack tuna	156,426	256,757	1.64
Yellowfin tuna	119,968	286,491	2.39
Albacore	20,156	36,121	1.79
Bigeye tuna	591,966	1,697,645	2.87
Kawakawa	133	256	1.93
Broadbill swordfish	75,733	127,372	1.68
Blue marlin	113,427	125,961	1.11
Black marlin	1,065	1,527	1.43
Striped marlin	40,843	60,694	1.49
Shortnose spearfish	8,949	8,780	0.98
Sailfish	1,315	1,830	1.39
Ocean moonfish	56,890	62,029	1.09
Spiny lobster	960	8,160	8.50
Crabs	4,449	16,294	3.66
Octopus	2,063	5,215	2.53
Squid	343	591	1.72
Limpets (saltwater)	355	1,639	4.62
Sea cucumbers	24	144	6.00
Algae	396	2,360	5.96
** SUBTOTAL **	1,500,306	3,365,566	2.24

Table V.1.14

Hawaii December 1997 Reported Commercial Landings

Species	Pounds	Value	\$/lb
Miscellaneous	326	734	2.25
Sharks	7,521	7,639	1.02
Eels	32	.23	0.72
Bigeye scad (akule)	76,897	97,180	1.26
Mackerel scad	30,247	40,512	1.34
Leatherback	24	19	0.78
Ten pounder	92	115	1.24
Bonfish	290	406	1.40
Milkfish	42	66	1.56
Threadfin	77	378	4.91
Mullet	27	83	3.07
Pomfret	20,610	30,963	1.50
Jacks (misc)	3,089	5,624	1.82
Amberjack	42	64	1.51
Blue crevally	54	79	1.46
Pig-lipped ulua	3,149	5,497	1.75
Dobe ulua	144	187	1.30
Paapaa ulua	274	364	1.33
White ulua	449	864	1.92
Giant sea bass	6,351	17,481	2.75
Blue spot grouper	17	37	2.18
Snappers	210	724	3.45
Blue lined snapper	3,644	3,637	1.00
Ehu (red snapper)	3,972	17,216	4.33
Gindai (flower snapper)	739	2,209	2.99
Kalekale (pink snapper)	3,283	8,172	2.49
Lehi (silverjaw)	1,822	5,541	3.04
Onaga (red snapper)	16,099	98,771	6.14
Opakapaka (pink snapper)	23,223	114,592	4.93
Uku (gray snapper)	9,199	29,613	3.22
Porgy	127	284	2.24
Reef jacks	2	5	2.63
Squirrelfish	3,427	10,306	3.01
Scorpionfish	403	1,619	4.02
Mountain bass	438	1,084	2.48
Bigeyes	268	679	2.53
Goatfish	5,933	18,591	3.13
Rudderfish	310	314	1.01
Damselfish	60	107	1.78
Hawkfish	187	445	2.38
Wrasse	582	2,368	4.07
Parrotfish	2,921	6,351	2.17
Surgeon/tangs	8,689	10,313	1.19
Flounders	3	2	0.61
Filefish	64	127	1.98
Rainbow runner	78	98	1.26

Table V.1.14 (Cont.)

Species	Pounds	Value	\$/lb
Mahimahi (dolphin)	27,958	75,452	2.70
Barracudas	706	831	1.18
Wahoo	29,942	80,621	2.69
Tunas	467	4,035	8.64
Skipjack tuna	122,096	158,888	1.30
Yellowfin tuna	125,303	328,560	2.62
Albacore	25,612	46,557	1.82
Bigeye tuna	967,283	3,162,021	3.27
Kawakawa	254	326	1.28
Broadbill swordfish	67,978	215,217	3.17
Blue marlin	74,751	113,841	1.52
Black marlin	384	545	1.42
Striped marlin	72,863	123,521	1.70
Shortnose spearfish	15,063	14,940	0.99
Sailfish	126	178	1.41
Ocean moonfish	71,268	84,683	1.19
Spiny lobster	1,204	10,850	9.01
Slipper lobster	177	2,267	12.81
Crabs	3,502	14,900	4.25
Shrimp (saltwater)	722	5,386	7.46
Octopus	1,218	3,320	2.73
Squid	58	144	2.48
Limpets (saltwater)	1,191	3,569	3.00
Sea cucumbers	23	207	8.98
Algae	361	1,939	5.37
** SUBTOTAL **	1,845,947	4,994,279	2.71
** TOTAL **	24,991,675	54,904,256	2.20

Figure V.1.1

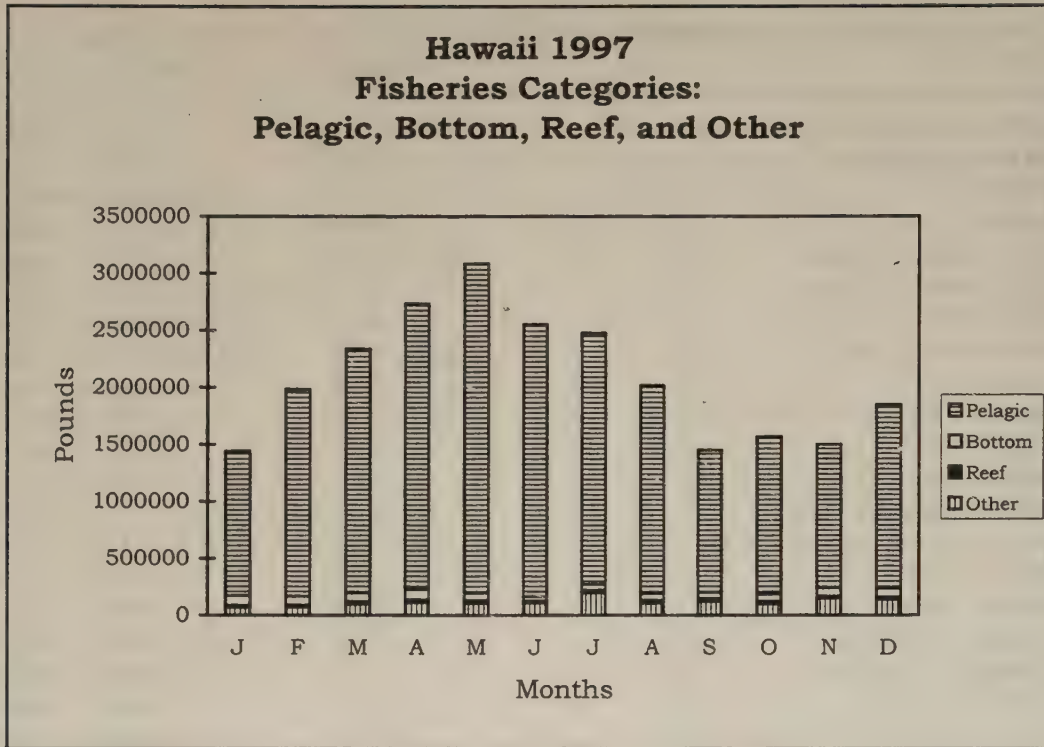


Figure V.1.2

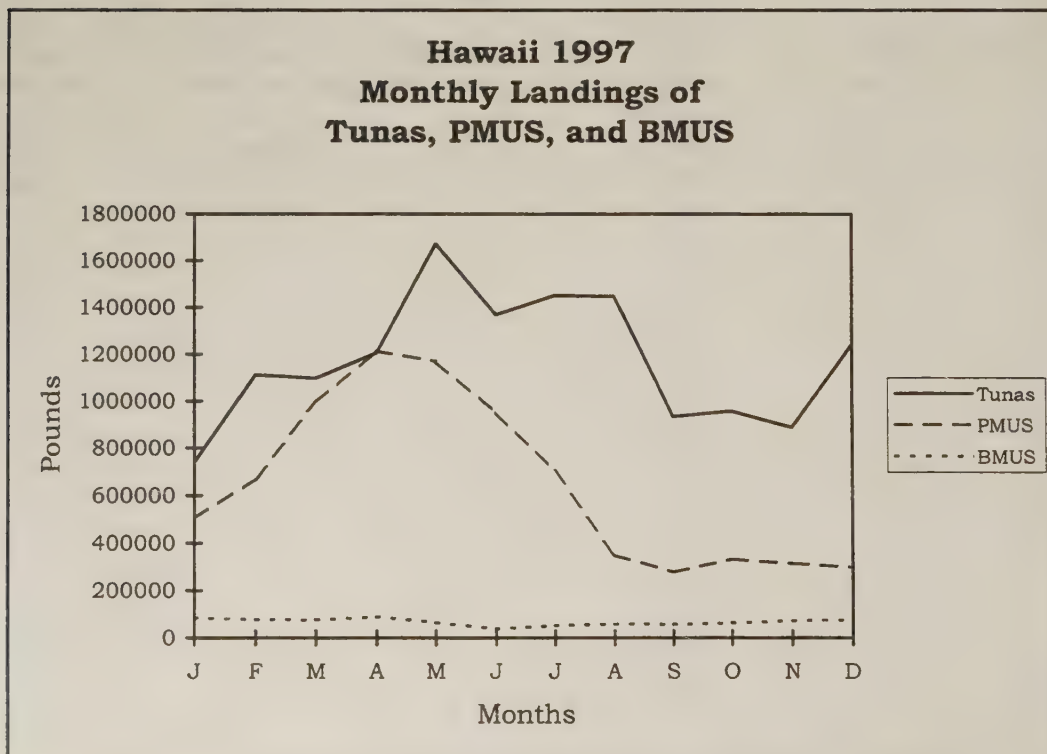


Figure V.1.3

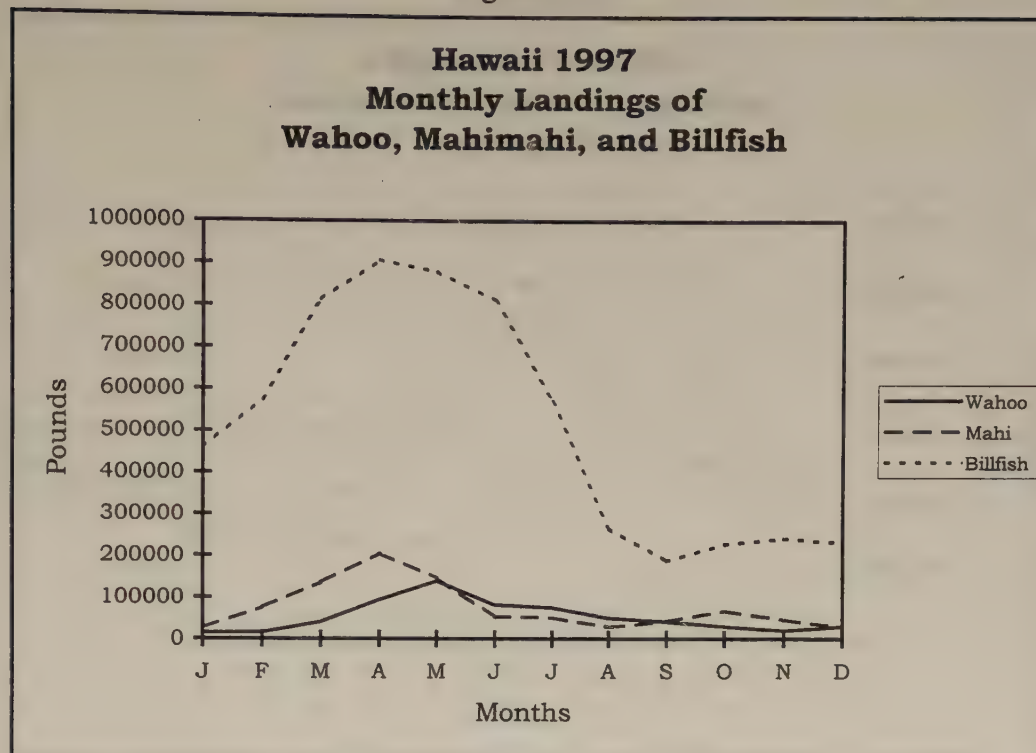


Figure V.1.4

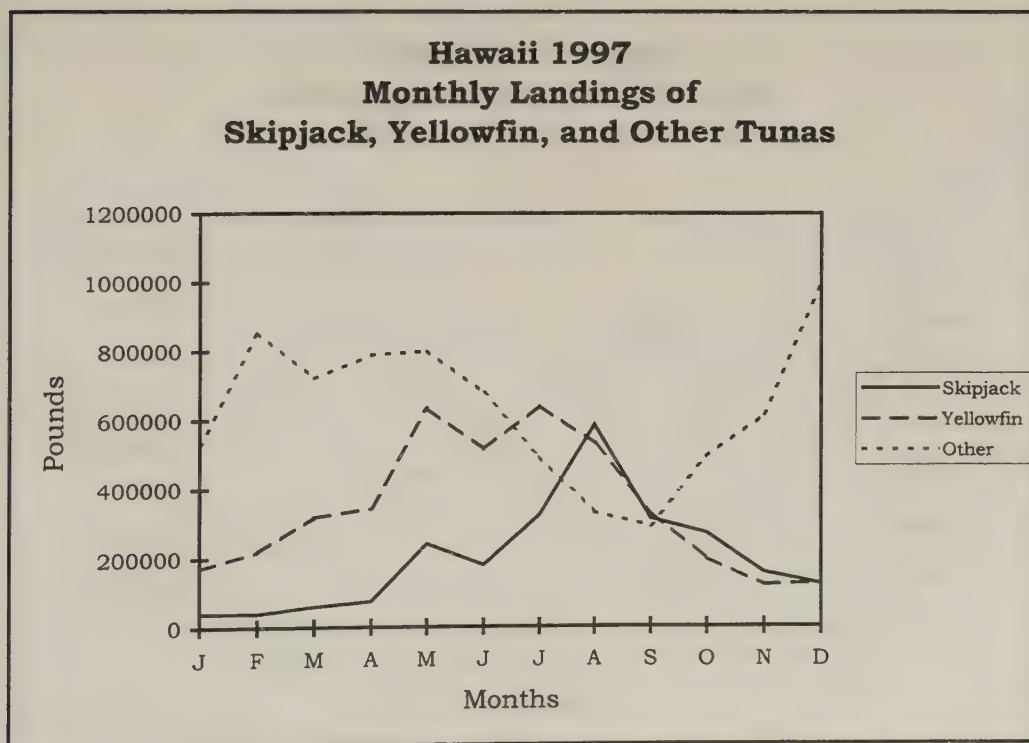


Figure V.2.1

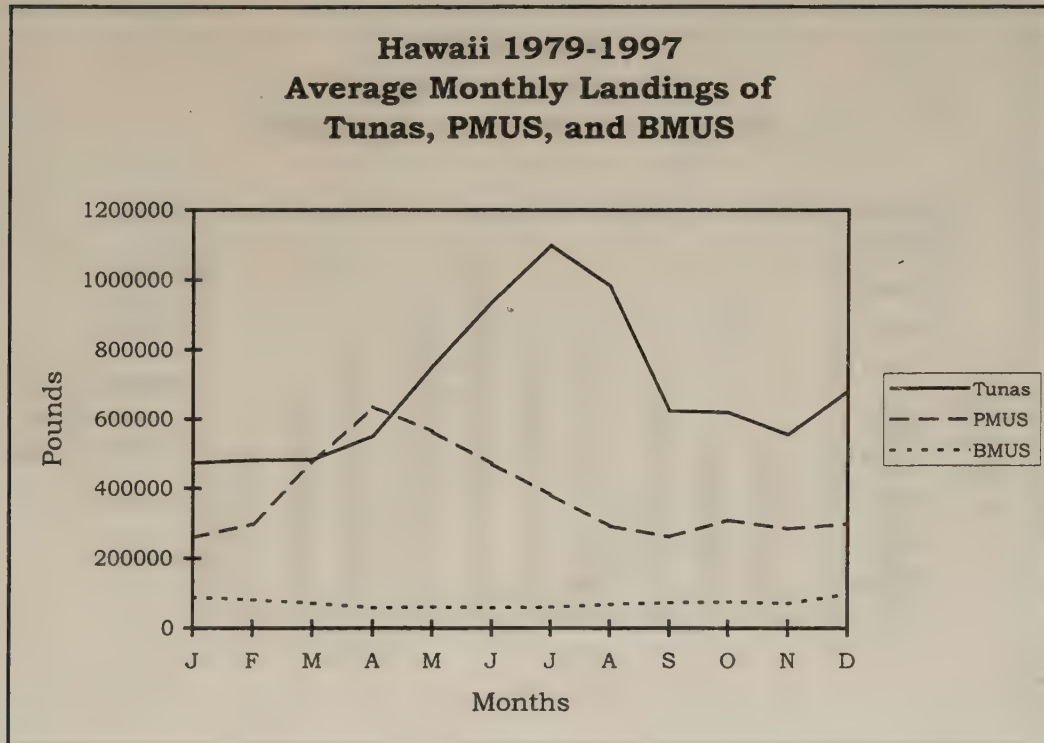


Figure V.2.2

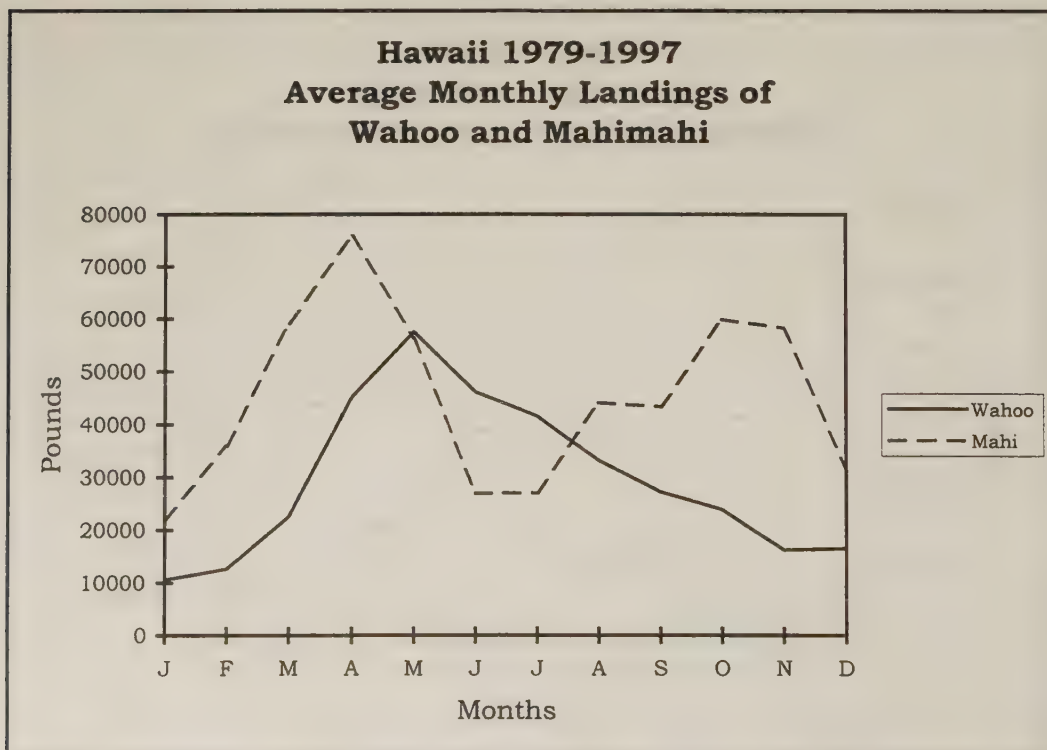


Figure V.2.3

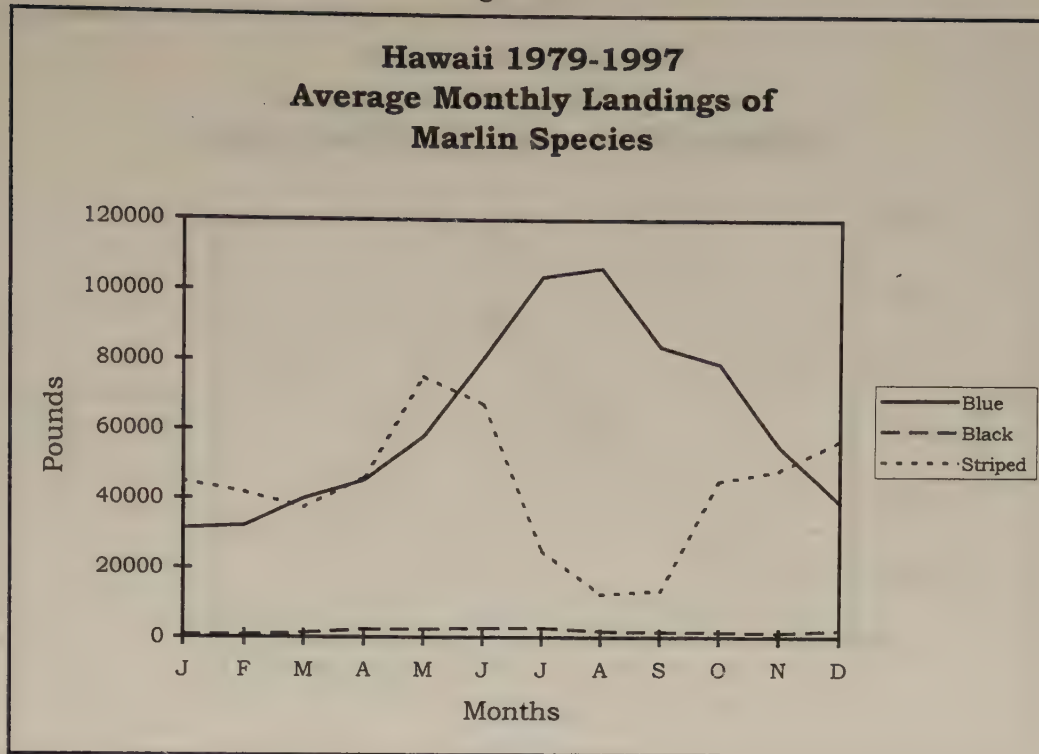


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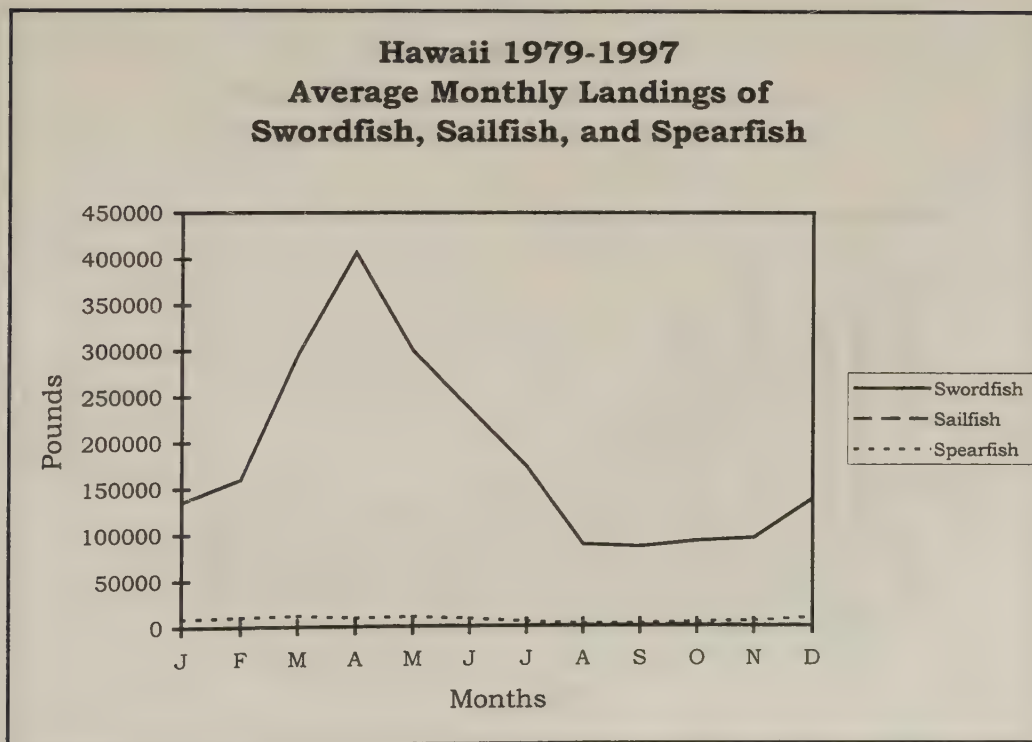


Figure V.2.5

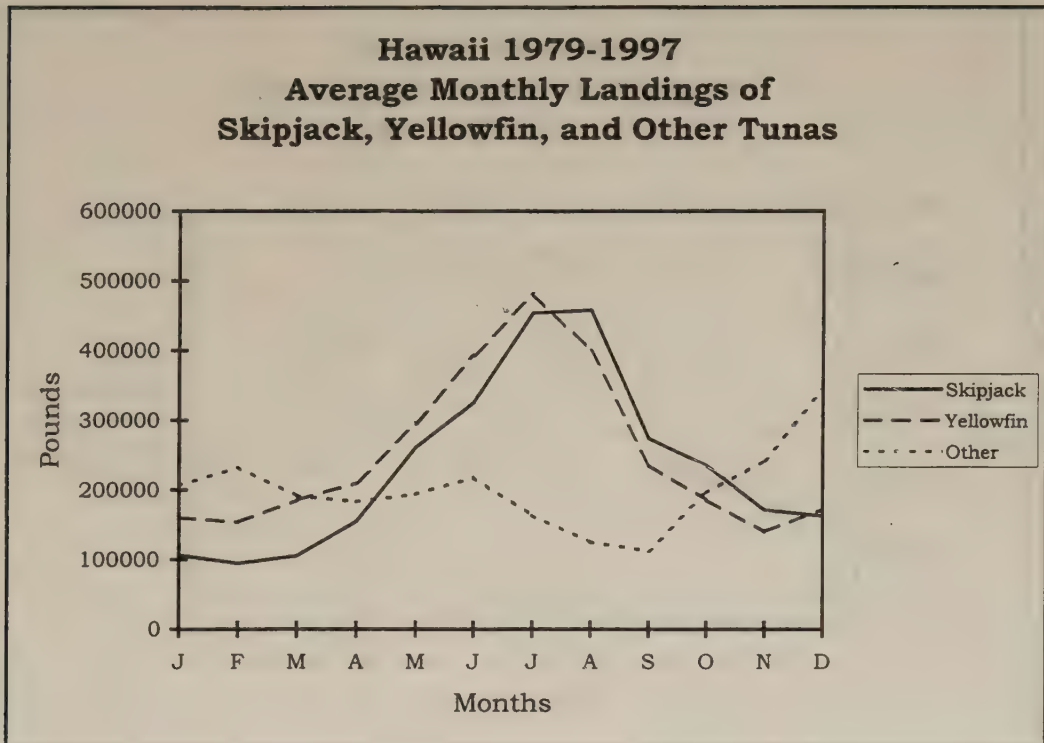


Figure V.2.6

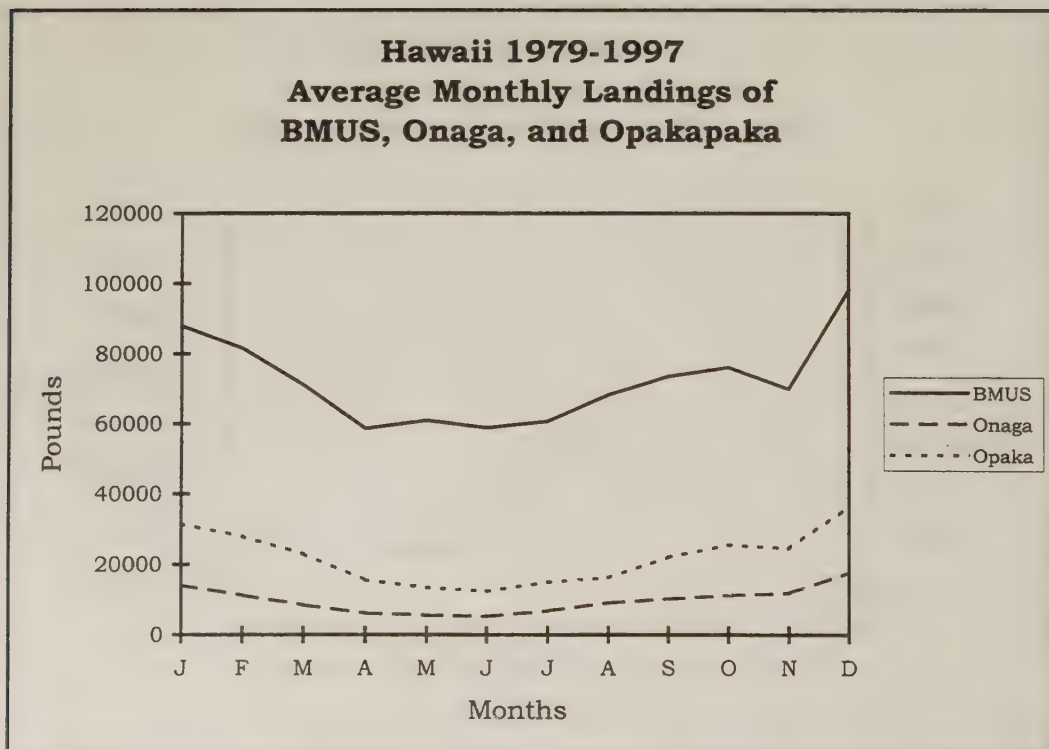


Figure V.2.7

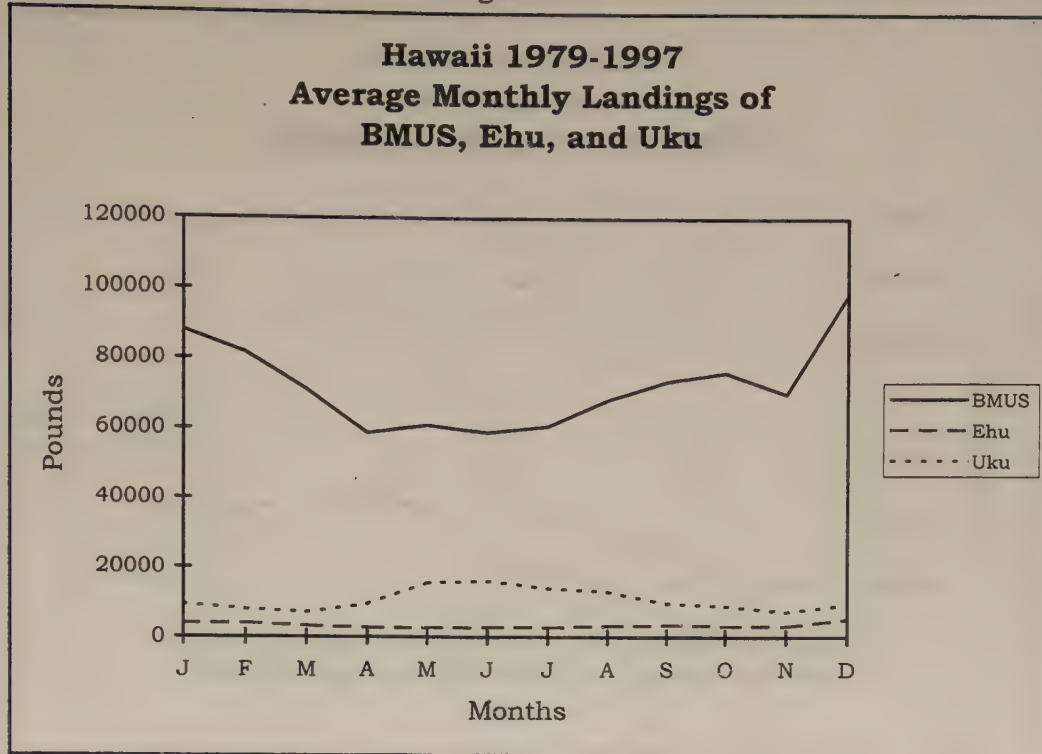


Figure V.3.1

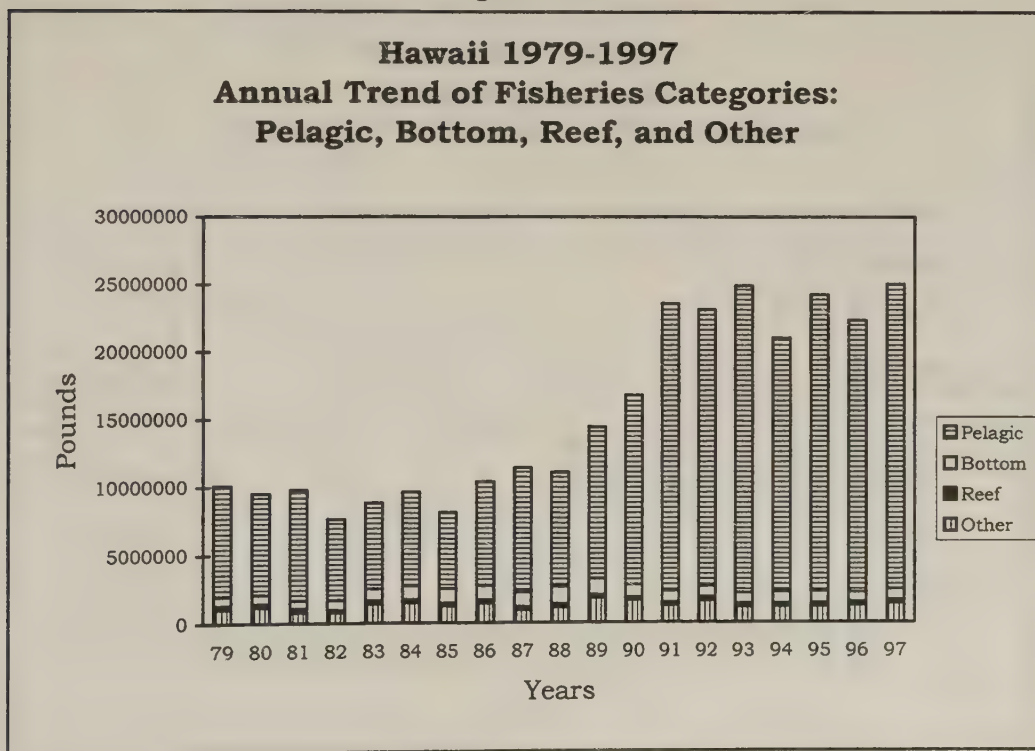


Figure V.3.2

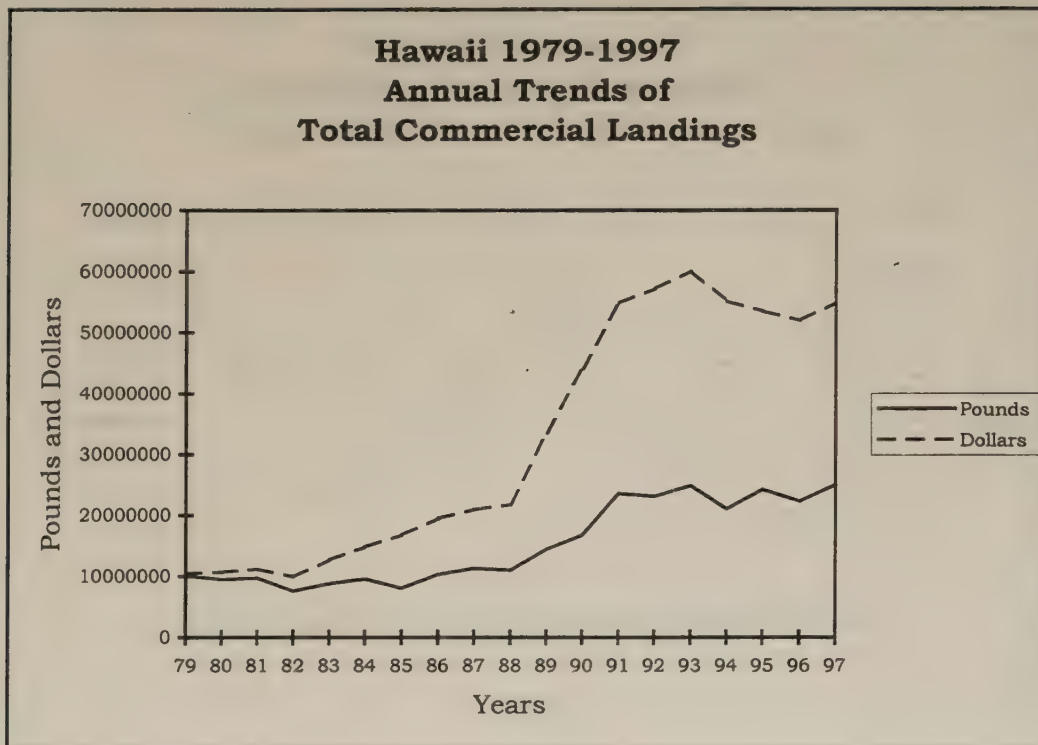


Figure V.3.3

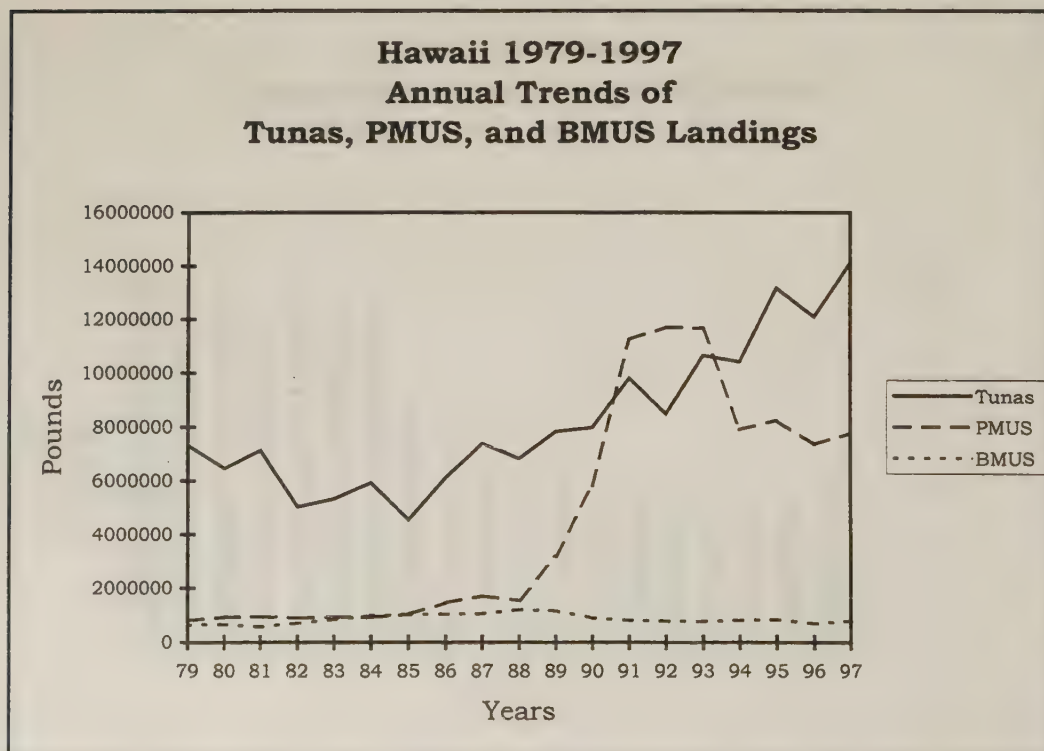


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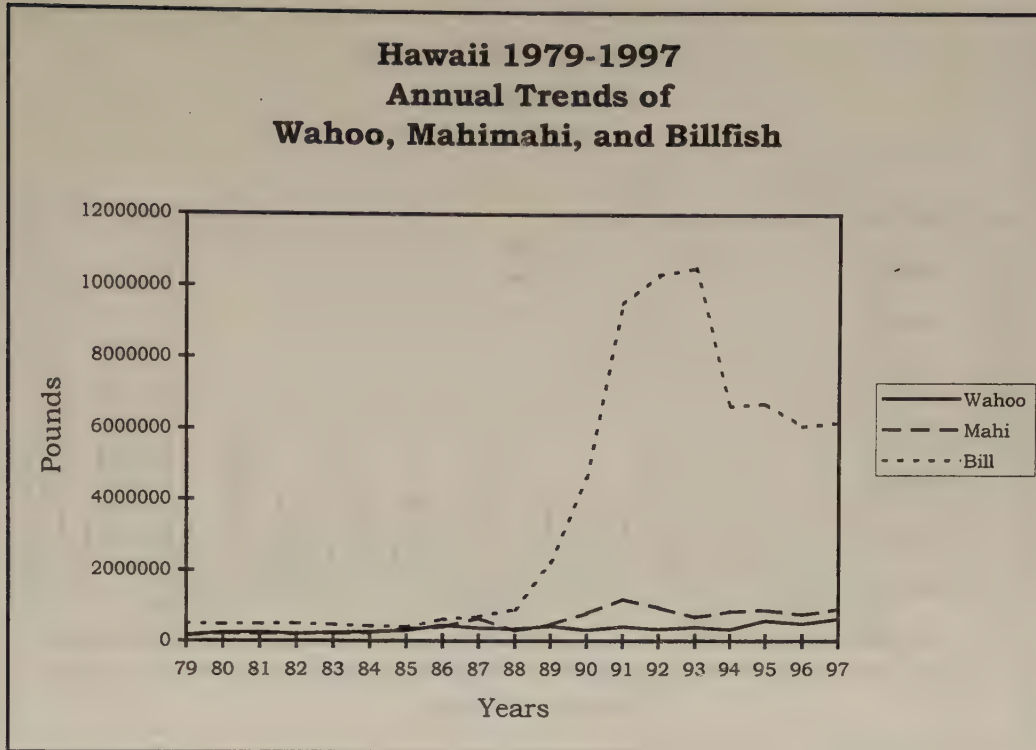


Figure V.3.5

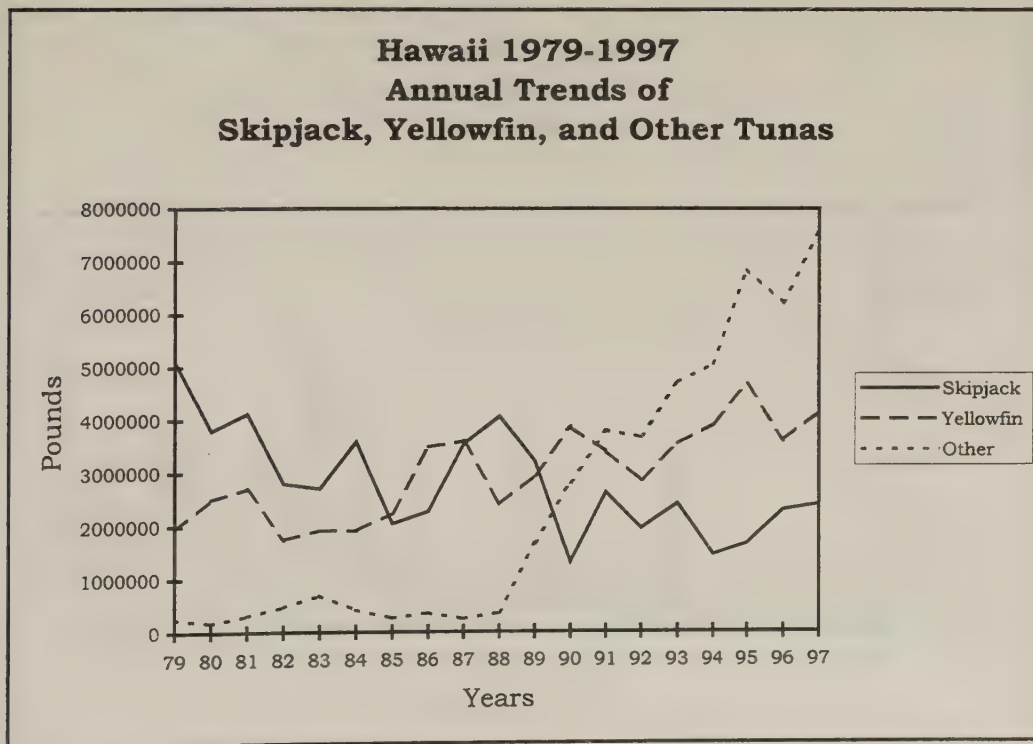


Figure V.4.1

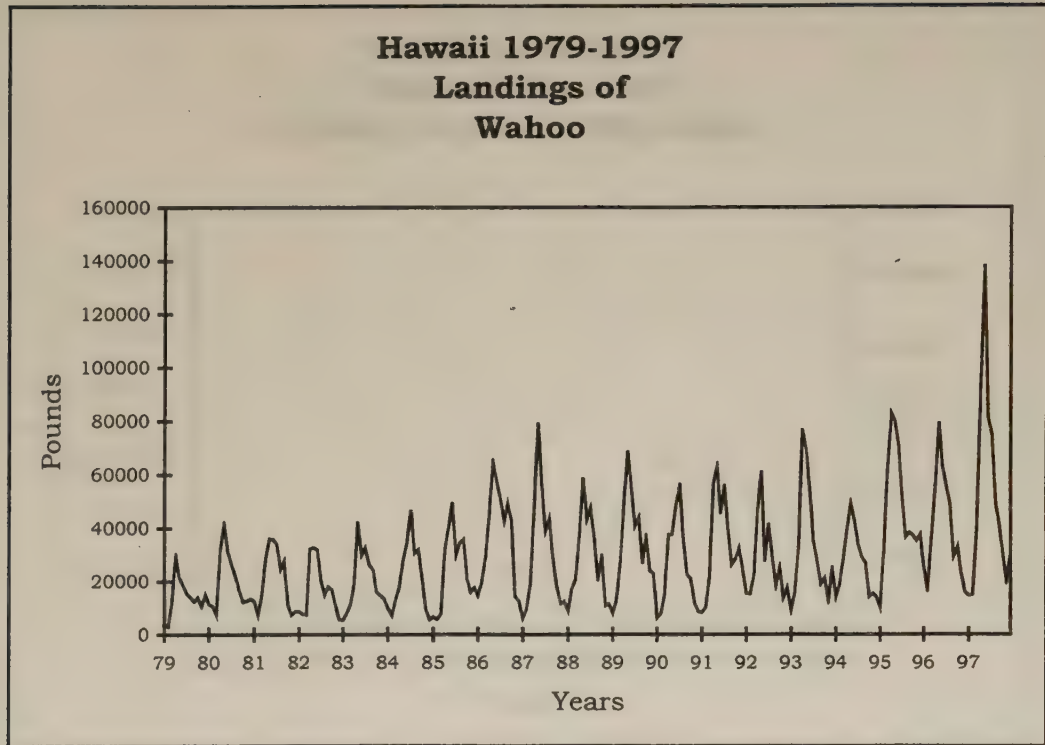


Figure V.4.2

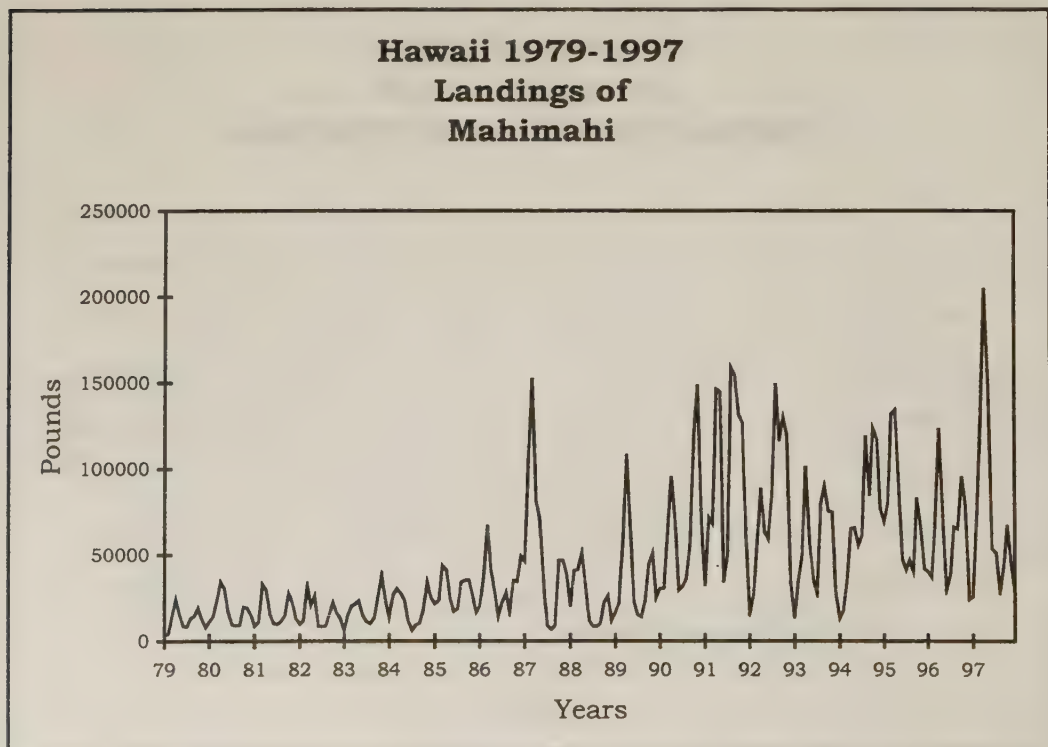


Figure V.4.3

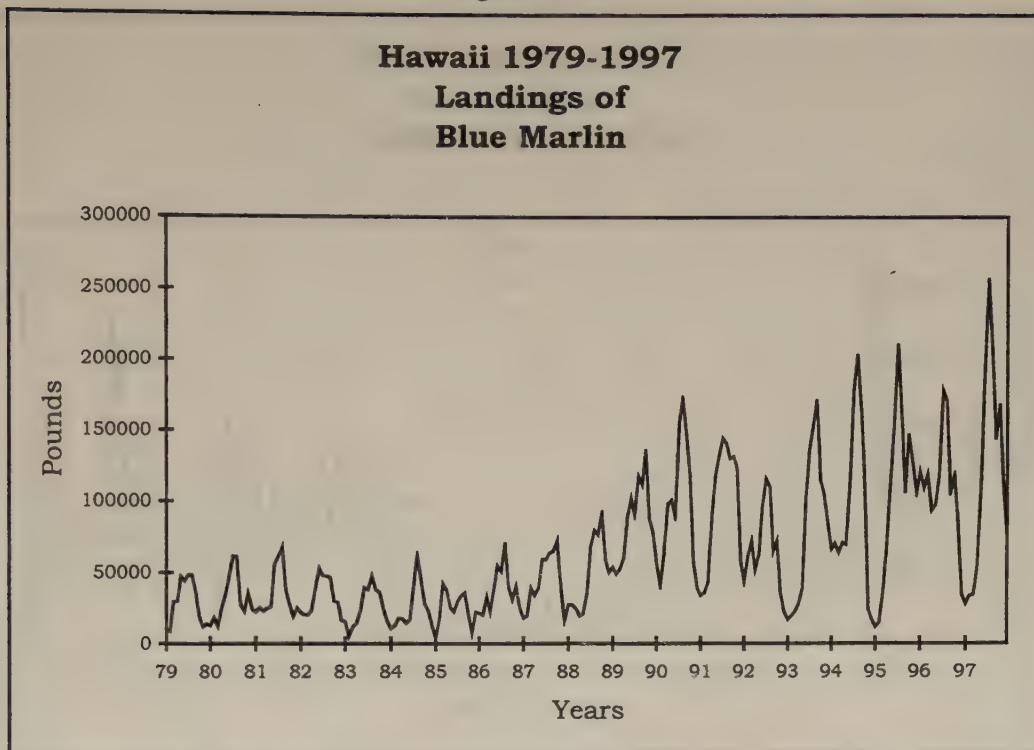


Figure V.4.4

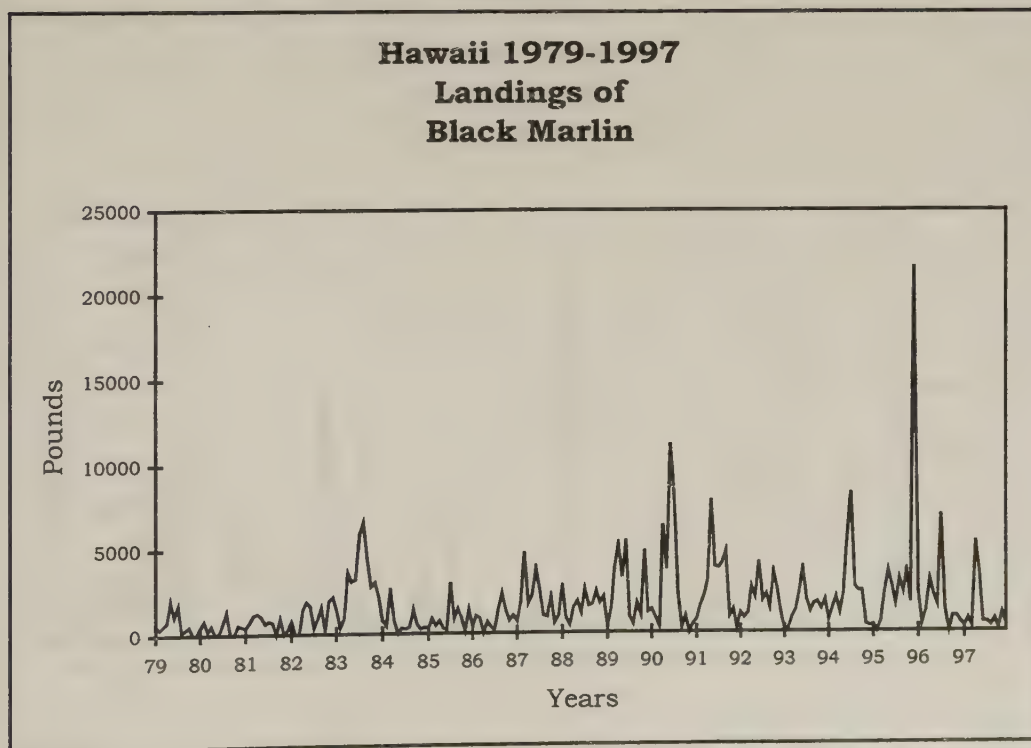


Figure V.4.5

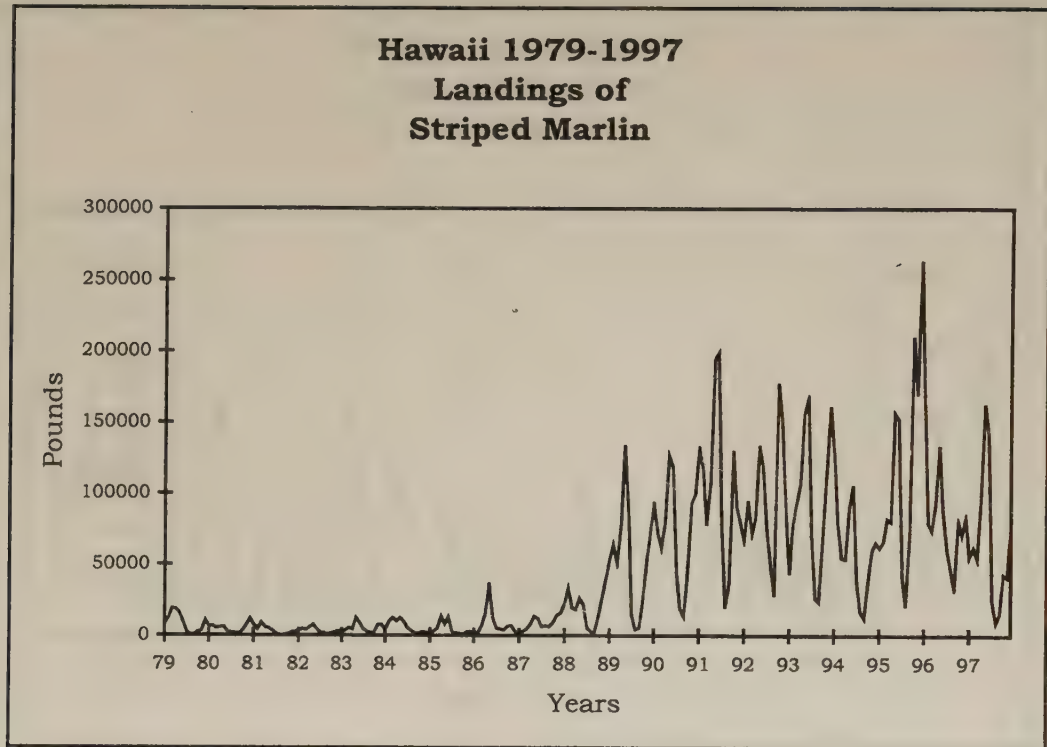


Figure V.4.6

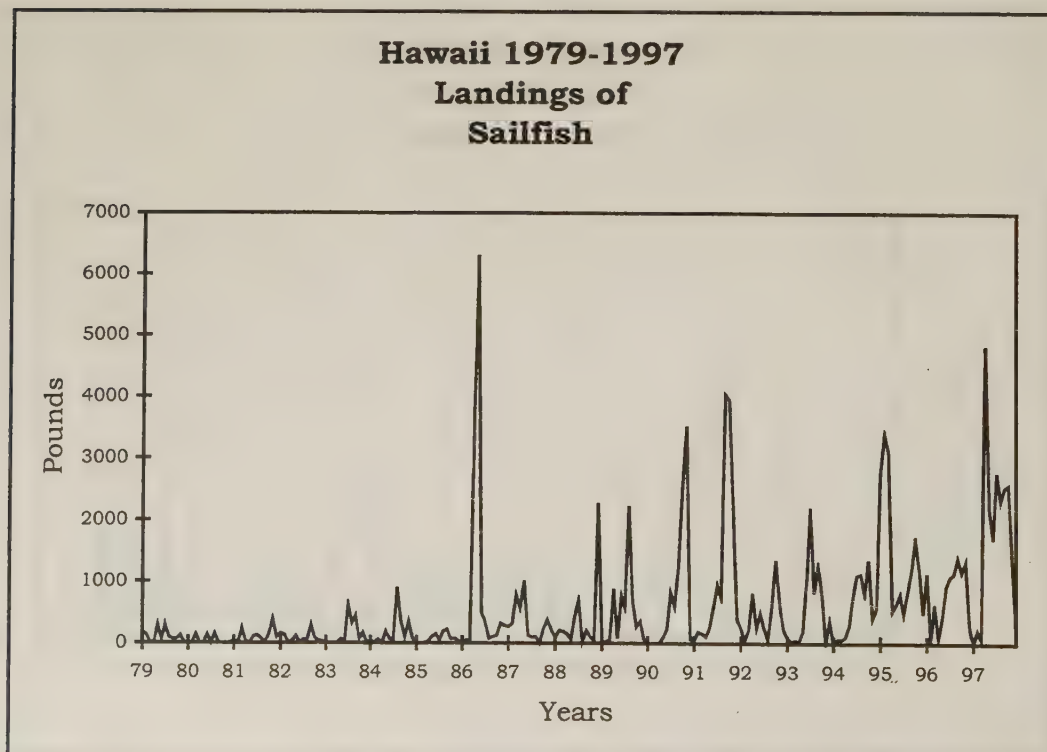


Figure V.4.7

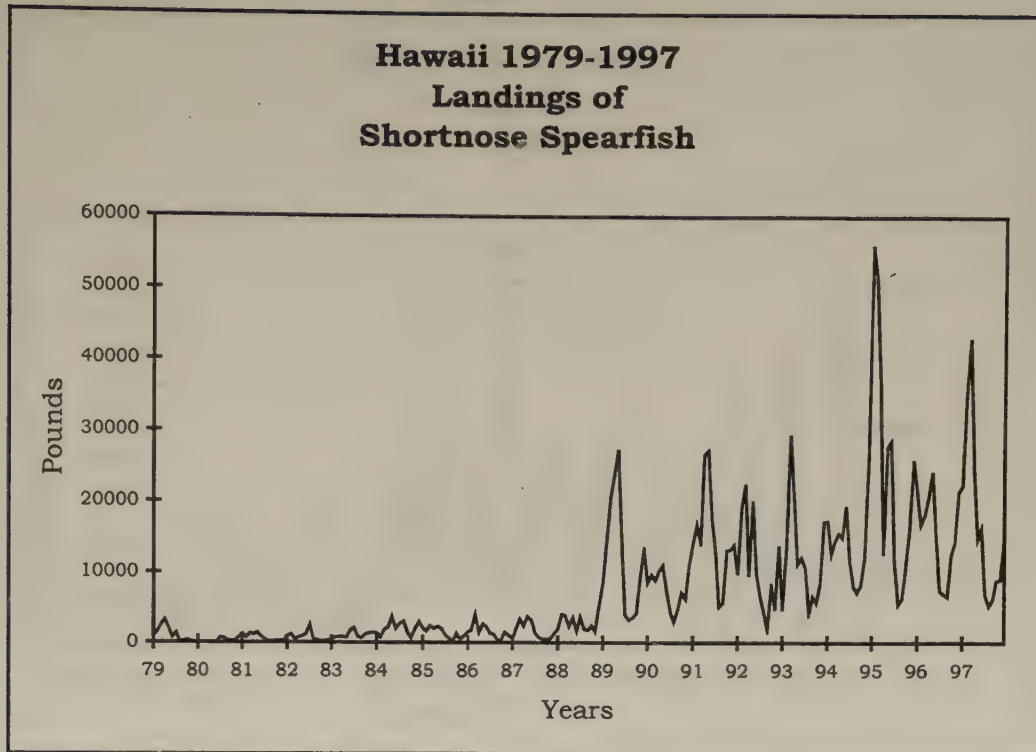


Figure V.4.8

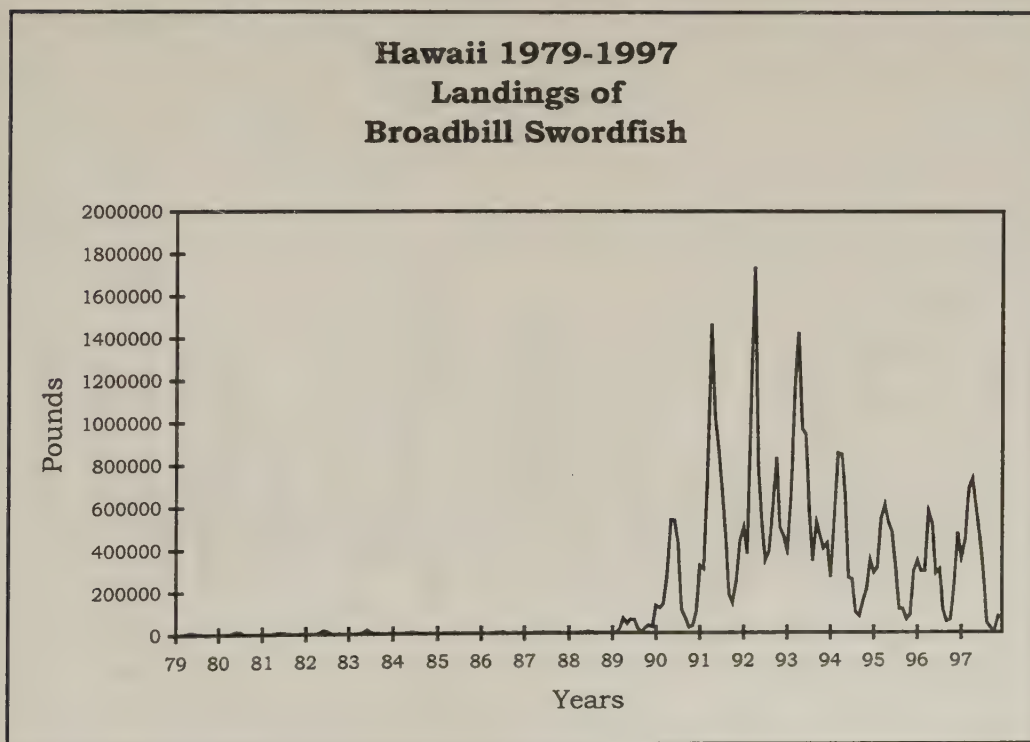


Figure V.4.9

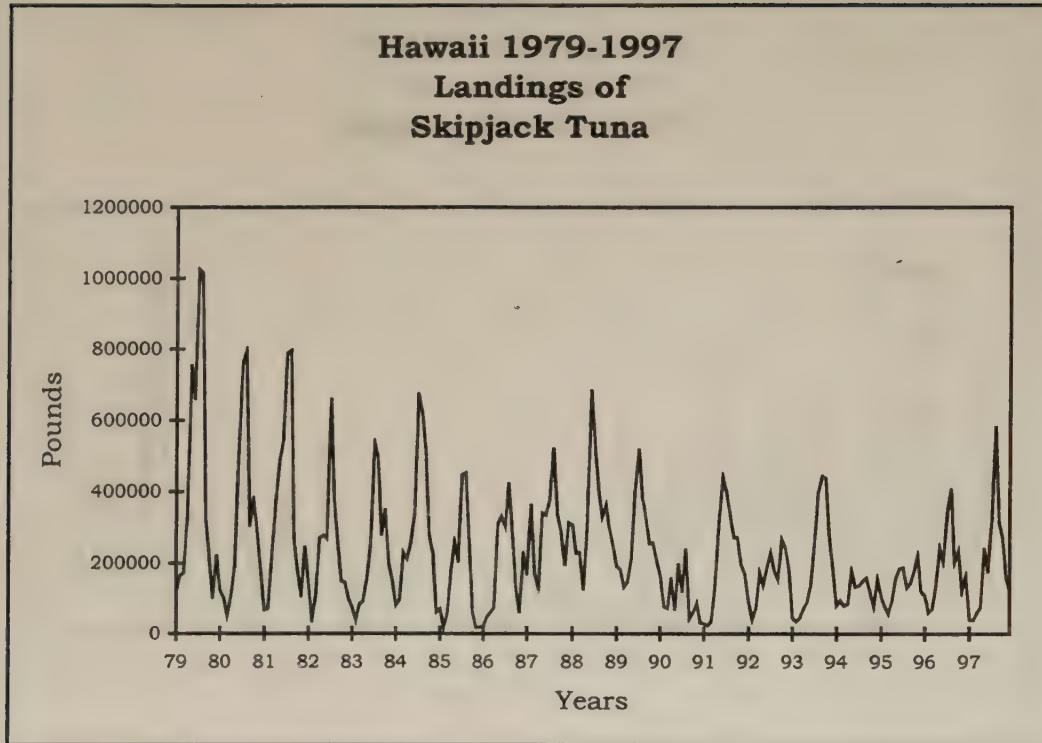


Figure V.4.10

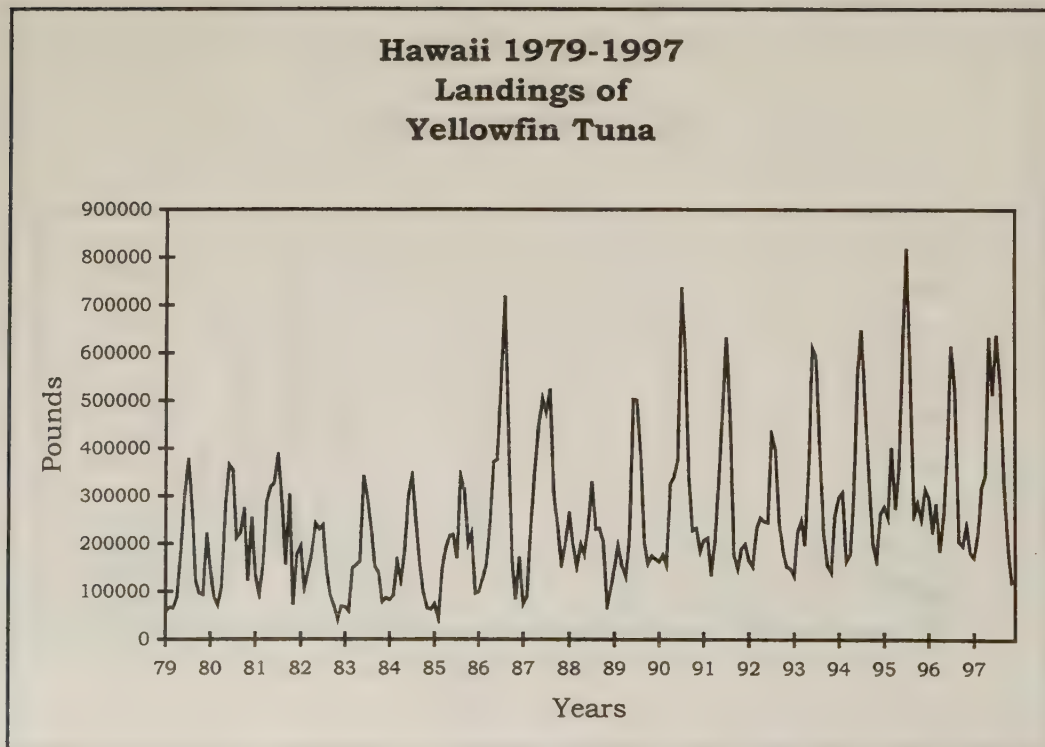


Figure V.4.11

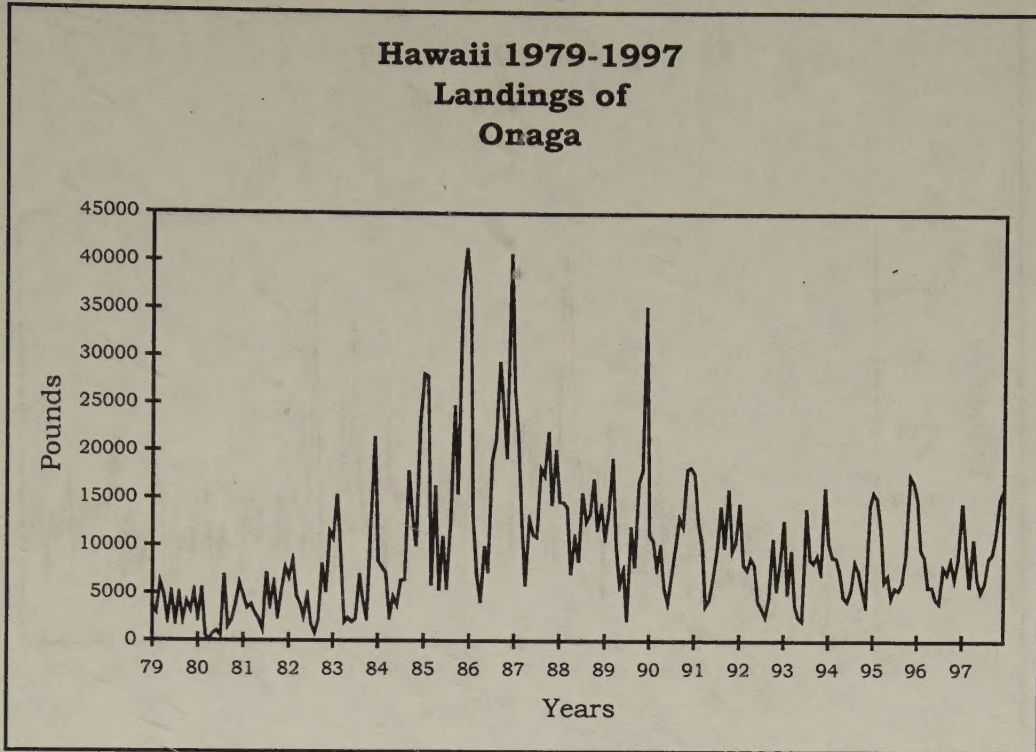


Figure V.4.12

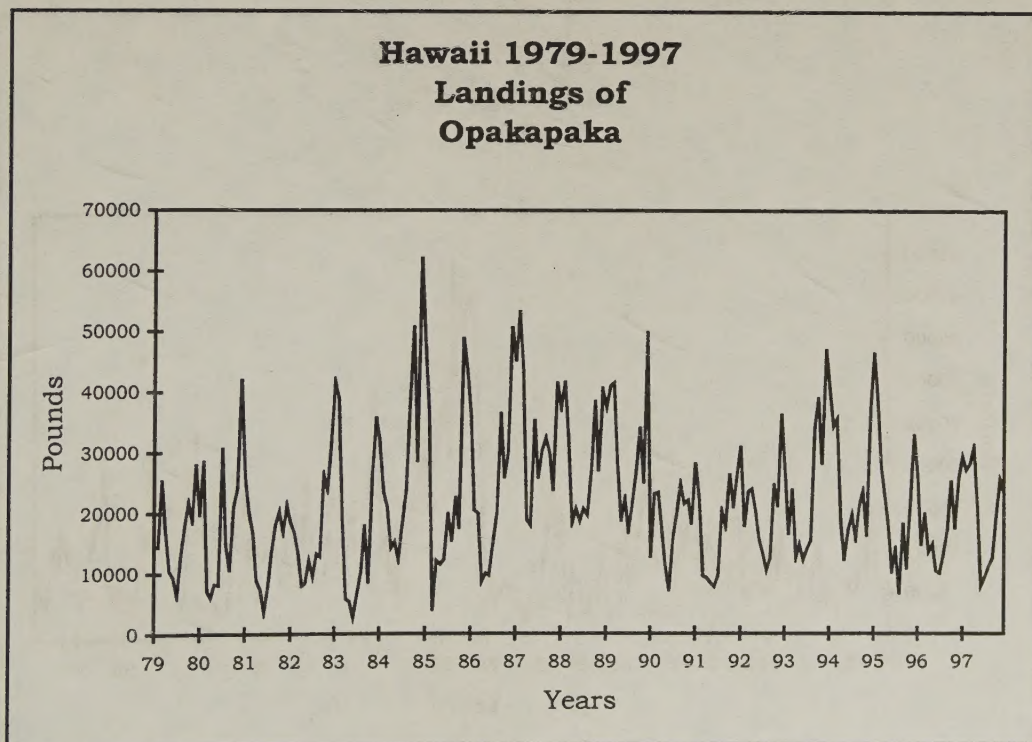


Figure V.4.13

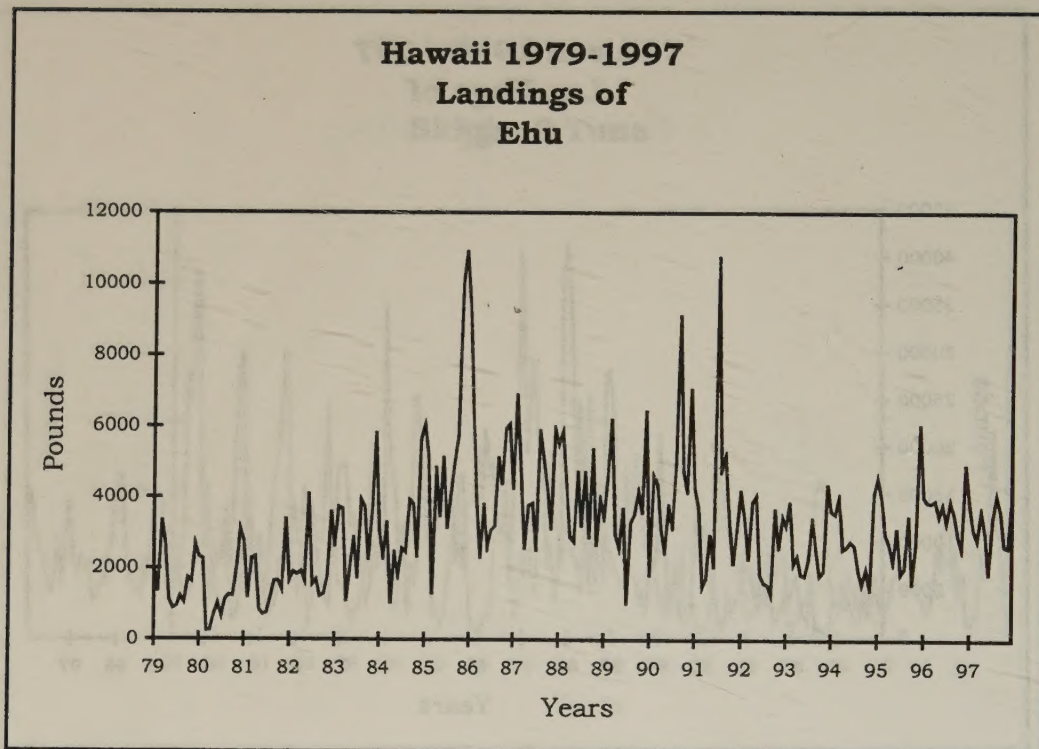


Figure V.4.14

